Social Behavior Patterns in Young Children

Esther Van Cleave Berne

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UNIVERSITY OF IOWA STUDIES IN CHILD WELFARE

Professor George D. Stoddard, Ph.D., Editor

FROM THE IOWA CHILD WELFARE RESEARCH STATION

Volume IV Number 3

AN EXPERIMENTAL INVESTIGATION OF SOCIAL BEHAVIOR PATTERNS IN YOUNG CHILDREN

by

Esther Van Cleave Berne, Ph.D.

PUBLISHED BY THE UNIVERSITY, IOWA CITY

ACKNOWLEDGMENT

The completion of this study was made possible through the grant of a Research Scholarship by the Committee on Child Development of the National Research Council in 1927-1928. The study was undertaken at the Iowa Child Welfare Research Station under the direction of the late Dr. Bird T. Baldwin and completed under the direction of Dr. Beth L. Wellman. To Dr. Wellman and to other members of the staff of the Research Station grateful acknowledgment is made.

FOREWORD

This study comprises a rather comprehensive examination into the social behavior of preschool children.

The first part of the monograph is given over to a brief presentation of the rating scale which was devised, together with an account of the results obtained in the laboratories of the Station. The scale itself manifests a very satisfactory reliability for devices of this kind, and where the ratings from three or more teachers judging independently are pooled, the findings may be accepted with confidence.

Clearly the social life of the child is characterized by complexity and variety. This study is of particular interest for its direct and objective attack upon this intricate development. It offers some escape from the usual monotony of making detailed diary records over long periods of time. It is not improbable that what is now used as a set of criteria (the experimental situations) may eventually become the valid and economical procedure for sampling the child's behavior.

GEORGE D. STODDARD

Office of the Director
Iowa Child Welfare Research Station
State University of Iowa
March 15, 1930

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CHAPTER I

DESCRIPTION AND MEASUREMENT OF SOCIAL BEHAVIOR PATTERNS OF ADULTS AND CHILDREN

A large number of child psychologists, sociologists, and mental hygienists believe that social behavior patterns are developed through the interaction of young children and their social environments. The relative importance accorded to the hereditary factors and the environmental factors in this interaction varies according to different authorities. Futher, there is little agreement in the descriptions of the various patterns of social behavior in young children. Previous experimental and observational studies are of little value in reconciling the divergent theories of social behavior and descriptions of patterns of behavior.

IMPORTANCE OF SOCIAL INTERACTION IN THE DEVELOPMENT OF SOCIAL BEHAVIOR

The influence of environment in the moulding of the child's behavior is stressed by many authorities. Thom (79) has said: ''The great majority of children with undesirable habits, personality deviations, and delinquent trends are not the product of an irreparable past, over which there is no control. They are largely the result of the environment in which they have been reared; and the dominating feature of the environment is always the parent.'' Myerson (52), discussing heredity and environment as bases of mental health, says of the social molding of moral behavior: ''We are dealing with an environmental force, remember, in the form of the parents and society.'' Similarly, Anderson (3) finds that ''very early in life, almost at the cradle, our social-schooling commences. It proceeds with rapidity and dispatch. . . . The early experiences and reactions of the individual are of great importance, not because of their intrinsic character but because they are the stones upon which the building of the individual must be constructed. The behavior of the adult toward persons has its genesis in the behavior of the child toward persons. Social behavior is of a piece with all other behavior and it is governed by the same laws.''[1]

Cooley (16) has described the social interaction of the child and the social aspects of his home and neighborhood environments, and has shown that the influence of the latter is very great in the development of personal ideals and attitudes. He says: ''A separate individual is an abstraction unknown to experience, and so likewise is society when regarded as something apart from the individual. The real thing is Human Life, which may be considered either in an individual aspect or in a social aspect. . . . 'Society' and 'individual' do not denote separate phenomena, but are simply collective and distributive aspects of the same thing, the relation between them being like that between expressions—. . . . the class and the students . . . . So far as there is any difference between the two, it is rather in our point of view than in the object we are looking at . . . .''[2] Likewise, Allport (1), Blanton and Blanton (8), Burnham (12), Gesell (27), Groves (30), Mateer (47), Myerson (51), Stern (74), Wile (90), and Young (94) believe that the child's behavior depends largely on his interaction with the social environment. Small (73) has shown that sociology is concerned with this process of interpersonal influence: ''Sociology deals especially with the phenomena of contact. The reactions which result from voluntary or involuntary contact of human beings with other human beings are the phenomena peculiarly 'social,' as distinguished from the phenomena that belong properly to biology and psychology.''[3]

Some authorities, however, consider inherited tendencies the important factors in the causation of child behavior. White (89), although he discusses the influence of environment on behavior, believes that a self-preservative, or ego instinct, and a race-preservative, or sex instinct, are the fundamental motive forces of behavior. Norsworthy and Whitley (54), Waddle (85), and Weeks (88), similarly, have attributed much of child behavior to instincts or to an instinct. Bolton (10) describes ''social traits'' of childhood without making clear their origin.

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[1] Anderson, John E.: III The Genesis of Social Reactions in the Young Children. [In] The Unconscious. A Symposium. New York: Knopf, 1927. Pp. 260. (p. 90)

[2] Cooley, Charles Horton: Human Nature and the Social Order. New York: Scribner's, 1902. Pp. viii, 413. (p. 1-2)

[3] Small, Albion W.: General Sociology: An Exposition of the Main Development in Sociological Theory from Spencer to Ratzenhofer. Chicago. Univ. Chicago Press, 1905. Pp. xiii, 739fl (p. 486)

INVESTIGATIONS OF SOCIAL BEHAVIOR

Two types of studies, called by Young (95) ''cross-sectional'' or ''structural,'' and ''historico-genetic'' or ''functional,'' have been used in the investigation of social behavior and personality. The authors of studies of cross-sections of personality seek to measure the behavior and the personality traits with which they deal, while authors of historicogenetic studies attempt to describe the genesis of their object matter with particular reference to social setting.

Cross-Sections of Social Behavior

Traits of overt social behavior; attitudes and opinions; social and moral knowledge; and moral and ethical discrimination have been the objects of interest in the studies of the cross-sections of personality. Rating scales, experiments, combinations of experiments and ratings, and observations have been used frequently in the investigation of traits of overt social behavior.

Rating Scale Methods in the Investigation of Overt Behavior.——Several types of scales have been used extensively in rating the personality traits of adults[4] and children.[5] Marsh and Perrin (45) and Kingsbury (36) have found that no one type of rating scale is best for all uses. The conditions of rating and the types of data under investigation should influence the selection of the plan of scale.

Experimental Methods in the Investigation of Overt Social Behavior.——Overt social behavior traits have been investigated also by experimental methods. Suggestibility has been studied by Otis (55) through suggestive statements and a ''fidelity of report'' picture test; aggressiveness, by Riddle (62) through records of overt reactions and changes in respiration of subjects during games of poker; self-assurance, by Filter (21) through a string-figures and a decoupage test; ability to mix socially, by Ream (61) through a social information test; social perception, by Gates (25,26) through Langfeld's (40) and Ruckmick's (65) photographs of characteristic emotional expressions; and humor, by Watson (86) through the Healy completion form board given with the instruction to substitute the funniest object in each picture, and by Bird (7) through a picture comparison test.

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[4] For rating the personality traits of adults, the rank order method was used by Norsworthy (53), Slawson (72), and Robson (63); a man-to-man comparison scale, by Scott and Clothier (67), a graphic scale, by the Committee on Classification of Personnel in the Army (17), and Davenport (19); and a quintile scale by Miner (49).

[5] Chassell (14) used a man-to-man comparison scale for kindergarten children; Terman (77), a graphic scale for normal and superior children; Maher (43), a questionnaire scale for six-year-old children; Yepsen (93), a score card for items of children's behavior; and Hughes (33), a rating scale for typical personal behavior traits of high school students.

Combinations of Rating Scales and Experiments in the Investigation of Overt Social Behavior.——Allport and Allport (2) have measured ascendance by means of a combination of an experiment and a rating scale; Moore and Gilliland (50), aggressiveness; Gilliland and Burke (28), sociability; Voelker (84), trustworthiness; and Raubenheimer (60), who adapted the experimental procedure of Knight (37), Voelker (84), and Cady (13), over-statement and trustworthiness. Marston (46) investigated successfully social resistance, compliance, interest, and self-assurance in preschool children through the use of experiments and ratings.

Observational Methods in the Investigation of Overt Social Behavior.——The observational method has been applied more extensively to the investigation of the intellectual traits of young children than to their social traits.[6] Baldwin (6), Stern (74), and Scupin and Scupin (68) have studied the social behavior of their children and have reported a wide range of behavior patterns. Verry (82), observing children in two preschool groups, has found five types of social attitudes. Andrus (4), Gambrill[7], Rogers (64), Chevaleva-Janovskaja (15), and Veverka (83) have analyzed the behavior of young children and tested social items and habits. Kambouropoulou (34) has studied the types of humor found in self-observations of college women.

Investigations of Attitudes, Social and Moral Knowledge, and Ethical Discrimination.——Certain studies of cross-sections of personality have investigated social attitudes, preferences, and opinions,[8] social and moral knowledge,[9] and ethical discrimination and moral judgment[10] in adults and school children. Verbal methods in which the subjects usually responded to tests in writing have been used.

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[6] Perez (57), Tracy (81), Sully (76), Preyer (59), Shinn (70), and Major (44) observed the mental development of young children and interpreted their observations psychologically.

[7] Gambrill, Bessie: An Inventory of Reactions Indicative of Social Attitudes; A Preparatory Work for Rating Social Maturity. Yale University 1925. Pp. 26. (Mimeographed)

Studies of the Genesis of Social Behavior

Autobiography, biography, case histories, and personal history documents are data for historico-genetic or functional investigation of social behavior traits and social attitudes. Autobiographies and personal histories, however, are of little value in the study of social behavior of young children. Case studies and biographies have been used in investigations of the genesis of social behavior by Woolley (91, 92), Stutsman (75), Brill (11), Foster and Anderson (22), and Foster (23). Goodenough and Leahy (29) have used ratings of kindergarten children in a study of the influence of family relationships on personality. This study is partly historico-genetic in that the authors suggest the causal factors in the development of certain personality traits.

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[8] Myerson (52), Bogardus (9), Shuttleworth (71), Hart (31), Watson (86), Zeleny (96), Frederick (24), and Raubenheimer (60) are among the investigators of social attitudes, preferences, and opinions.

[9] Hartshorne and May (32), Meltzer (48), Shaffer (69), and Schwesinger (66) have investigated social and moral knowledge.

[10] Kohs (38), Otis (55), Pressey (58), Fernald (20), Cushing and Ruch (18), and McGrath (42) have studied ethical discrimination and moral judgment.

CHAPTER II

AIM, METHOD, AND SUBJECTS OF THE INVESTIGATION

The present investigation was undertaken with the purpose of describing and measuring the patterns of social behavior in children of several preschool groups. The specific problems were (1) to describe the patterns found in the social behavior of children in preschool groups; (2) to devise a rating scale for the measurement of the social behavior patterns; (3) to arrange and give experiments for the measurement of selected social behavior patterns; and (4) to estimate the validity of the ratings and experiments by means of observational studies of a number of children.

The subjects in the investigation were 132 preschool children. Fifty of the children between the ages of one year, three months and four years, eleven months and enrolled in the preschool laboratories Group I, Group II, and the preschool Home Laboratory of the Iowa Child Welfare Research Station of the University of Iowa, Iowa City, were subjects of ratings on Form 1 of a *Rating Scale for Social Behavior of Young Children.* The results of the ratings for the fifty children were used only in building up Form 2 of the scale. Eighty-two children from two years to four years, eleven months of age were rated at various times between September, 1926, and June, 1928, and made up the main group of the investigation. Of the eighty-two children, sixty were enrolled in three of the preschool groups of the Iowa Child Welfare Research Station: Group I, Group II, and the Home Laboratory, and twenty-two in the nursery school maintained by the Division of Home Economics, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa. Fifty-nine of the sixty children enrolled in the preschool laboratories of the Iowa Child Welfare Research Station were subjects in experiments for measuring social behavior devised for this study, and twelve were subjects for observational study.

The average chronological age, the average mental age, the average intelligence quotient, and the standard deviations, for thirty-one children having mental ages obtained on the Kuhlman revision of the Binet scale and thirty children having mental ages obtained on the Stanford revision of the Binet scale, are reported

Table 1

Average Chronological Age, Mental Age, and Intelligence Quotients of Twenty-Four Boys and Thirty-Seven Girls according to Age and Sex

Age, Years	Children	Age, Months				Intelligence Quotient	
		Chronological		Mental			
		Mean	S. D.	Mean	S. D.	Mean	S. D.
Boys							
Kuhlmann Revision							
2	8	31.6	4.6	32.0	4.3	109.1	11.0
3	4	43.7	3.3	47.2	4.3	108.5	7.4
Stanford Revision							
2	1	33.0		38.0		115.0	
3	8	43.2	2.9	53.0	6.6	122.4	11.8
4	3	53.2	1.6	60.8	6.2	115.0	14.9
Girls							
Kuhlmann Revision							
2	8	30.0	2.2	32.5	3.6	108.7	45.0
3	10	40.9	3.5	44.3	7.5	108.4	13.5
4	1	48.0		46.0		95.0	
Stanford Revision							
2	1	36.0		50.0		140.0	
3	11	42.7	2.5	53.4	6.1	123.0	14.1
4	6	52.5	2.1	66.8	6.2	127.2	12.3
Boys and Girls							
Kuhlmann Revision							
All Ages	31	36.0	3.2	38.8	5.0	108.2	9.3
Stanford Revision							
All Ages	30	45.3	2.3	56.1	5.9	123.9	12.3

for age and sex groups in Table 1. The two-year group included children from two years to two years, eleven months, twenty-nine days; the three-year group, children from three years to three years, eleven months, twenty-nine days; and the four-year group from four years to four years, eleven months, twenty-nine days.[11] For forty-three children, mental age scores were not available. The average chronological age and standard deviations for the age and sex groups of these children are shown in Table 2. Boys and girls having mental age scores obtained with the Kuhlmann revision of the Binet scale had an average chronological age of 36.0 months, an average mental age of 38.8 months, and an average intelligence quotient of 108.2. Boys and girls having mental age scores obtained on the Stanford revision of the Binet scale had an average chronological age of 45.3 months, an average mental age of 56.1, and an average intelligence quotient of 123.9. The average chronological age of the forty-three children for whom mental age scores were not available was 42.7 months.

Table 2

Average Chronological Age of Twenty-Five Boys and Eighteen Girls according to Age and Sex

Age, Years	Children	Age, months Chronological Mean	 S. D.
	Boys		
2	8	32.6	4.6
3	10	41.1	3.9
4	7	53.6	2.3
	Girls		
2	3	33.3	1.7
3	10	42.3	3.3
4	5	51.8	2.7
	Boys and Girls		
All Ages	43	42.7	3.3

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[11] The mental measurements were made by three experienced technicians in the Iowa Child Welfare Research Station, Julia Kirkwood, Lucile Chase, and Gertrude Pavey.

CHAPTER III

DESCRIPTION OF SOCIAL BEHAVIOR PATTERNS IN YOUNG CHILDREN BY MEANS OF A RATING SCALE

EXPERIMENTAL DEVELOPMENT OF THE RATING SCALE

As the first step in the experimental development of a scale for rating the social behavior of young children, a descriptive, observational record of such behavior was made. Social behavior was tentatively defined as "behavior involving other persons." Two to three hours of daily observation over a period of three months were divided between three groups of preschool children in the preschool laboratories, Groups I and II and the Home Laboratory of the Iowa Child Welfare Research Station of the State University of Iowa. The age range was from one year, three months to four years, eleven months.

Although the social behavior of all the members of the group was usually the object of observation, separate diary records of six children were kept for two months. An analysis of these observational data revealed forty-three social behavior patterns, each of which seemed to be distinguishable from every other pattern. Seventeen of these behavior patterns were paired with seventeen other patterns, their opposites; each of the remaining nine, having no opposite, was contrasted with the lack of the behavior pattern. The twenty-six traits resulting from this combination of behavior patterns were arranged on a modified form of the graphic rating scale reported by Freyd.[12] Each trait, or pair of traits, was defined and described quantitatively in five degrees on the scale in Form 1 of the *Rating Scale for Social Behavior of Young Children.*

In order to determine how thoroughly the scale covered the whole of the social behavior of the young child, the paired traits were checked against the classifications of social behavior made by Norsworthy and Whitley (54), Gambrill,[13] Andrus (4), and Bolton

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[12] Freyd, Max: The Graphic Rating Scale. J. Educ. Psychol., 1923, 14, 83-102.

[13] Gambrill, Bessie: An Inventory of Reactions Indicative of Social

(10). The items of behavior listed by these investigators seemed to be included within the scale.

The rating scale was applied by graduate students majoring in child psychology to the social behavior of fifty preschool children, (as indicated on page 28). An analysis of the ratings, criticisms of the scale by the raters, and the comparison of ratings for seven children with observational scores, indicated the need for a revision of the scale. The trait of exclusiveness was omitted, the trait of irresponsibility for self and others was retained as two separate traits, and four traits were added. Form 2 of the *Rating Scale for Social Behavior of Young Children,* the final scale of thirty traits, is found on pages 19 to 27.

THE RATING SCALE AS DESCRIPTIVE OF SOCIAL BEHAVIOR IN YOUNG CHILDREN

No *a priori* definition of the social behavior of preschool children was accepted as a criterion for the inclusion of social behavior patterns in the rating scale. However, after an analysis and classification of the total overt behavior of young children, that behavior described in the rating scale and designated as social was distinguishable from other behavior on the basis of two characteristics. Social behavior consisted of (1) response to the presence and behavior of other persons, and (2) response to rules of behavior which directly involved other persons as objects of activity or as partners in coöperation.

The social behavior of the child which is a response to the presence of other persons is exemplified in the following observation:

> F383[14] was playing with F348 in the ''doll'' corner of the preschool room. Both girls sat down on the doll's trunk. F383 put her arms around F348, and hugging her, said, ''I love you. I love you.'' They sat with their arms around each other for one minute.

Behavior described as social conformance is frequently a responce to a rule of behavior set up in situations in which other persons are involved. Some children, after being taught to wait for all children to be served with orange juice before drinking, obey the rule although the teacher says nothing about it. A typical

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Attitudes; A Preparatory Work for Rating Social Maturity. Yale University, 1925. Pp. 26. (Mimeographed)

[14] F or M preceding the child's number refers to the sex.

Form 2

RATING SCALE FOR SOCIAL BEHAVIOR OF YOUNG CHILDREN

Iowa Child Welfare Research Station
State University of Iowa, Iowa City, Iowa

Child .... Sex .... Group .... Date of rating ....
(Surname first) Year Month Day

Address .... Year in school .... Date of birth ....
Year Month Day

Number of siblings Younger.................. Older.................. Nationality Father.................. Mother.................. Age ....
Years Months Days

Name of father .... Occupation of father ....
(Surname first)

Name of mother .... Occupation of mother ....
(Surname first)

Rater .... Age .... Sex .... Occupation ....
(Surname first)

How long have you known the child? .... What opportunities have you had to observe the child as a basis for your rating? ....

INSTRUCTIONS TO RATERS

1. A thorough acquaintanceship with the child is necessary.
2. Consult no one in forming your judgments; what is desired is your estimate of the child uninfluenced by what others may think of him.
3. Keep the child in complete ignorance of the fact that he is being rated. In no case should he be informed of his rating, even if it is favorable.
4. In rating the child on a trait, disregard every other trait but that one. Many ratings are worthless because the rater has been influenced by the general impression, favorable or unfavorable, that he has formed of the child.

5. In rating a child, use as a standard your adult idea of each trait. Your standard for the five degrees of the trait should be the five degrees considered in general, not merely corresponding to the degrees of the trait in the group you are rating. For example in rating ''kindness,'' you should use as a standard your general idea of kindness in the five degrees: ''Remarkable in doing good or conferring happiness,'' ''Noticeably kind,'' '' Equally kind and unkind.'' ''Unkind to marked degree,'' and ''Decidedly unkind, disposed to make others unhappy''; not the five degrees of ''kind'' behavior manifest in the group.

6. Carefully decide which degree of each trait most nearly describes the child and mark it with ''X.'' If you are very certain that the trait has not appeared, do not rate it.

7. Rate the entire group of children on one trait before rating on another trait.

TRAITS

1. *Obeys*: is submissive to authority; submissive to restraint, or command
Does he obey?

( ) Decidedly submissive to authority	( ) Noticeably obedient	( ) Equally obedient and disobedient	( ) Noticeably disobedient	( ) Refuses to obey decidedly; does what is prohibited

2. *Seeks approbation*: desires commendation, notice, sanction
Does he seek approbation?

( ) Decidedly seeks approbation	( ) Seeks approbation noticeably	( ) Seeks approbation and does not seek approbation equally	( ) Noticeable in not seeking approbation	( ) Remarkable in not seeking approbation

3. *Interested in the group*: has attention engaged by the group
Is he interested in the group?

( ) Decidedly attentive to the group	( ) Noticeably interested	( ) Shows interest and lack of interest equally	( ) Noticeably uninterested	( ) Decidedly uninterested; attention is away from the group

4. *Depends on adult*: depends on adult to provide activities for him; is unable to provide his own activity
How dependent is he on adult?

( ) Remarkably dependent on adult for his activity	( ) Noticeably dependent on adult	( ) Equally dependent on and independent of adult	( ) Noticeable for lack of dependence on adult	( ) Decidedly independent of adult

5. *Affectionate*: loves; has tenderness, fondness
Is he affectionate?

( ) Decidedly affectionate; shows love, fondness	( ) Affectionate to a noticeable degree	( ) Equally affectionate and repellant	( ) Shows lack of affection to a noticeable degree	( ) Remarkable for lack of affection; repels; drives others away

6. *Coöperates*: works or plays with others; works or plays jointly
Does he coöperate?

( ) Decidedly coöperative	( ) Noticeably fond of playing or working with others	( ) Equally coöperative and uncoöperative	( ) Noticeably tends to play or work alone	( ) Decidedly uncoöperative

7. *Respects others' property rights*: respects another child's right to a possession
Does he respect others' property rights?

( ) Decidedly respects others' property rights	( ) Noticeably respects others' property rights	( ) Equally shows respect and lack of respect for others' property rights	( ) Noticeable in lack of respect for others' property rights	( ) Decidedly does not respect others' property rights

8. *Participates*: contributes to the social development of the room; participates and is responsible for social organization, i.e., the making or carrying out of rules

Does he participate in the social organization of the group?

( ) Decidedly active in participation in group organization	( ) Noticeably active in participation in social organization	( ) Equally active and inactive in participation	( ) Noticeably inactive in participation	( ) Remarkably inactive in participation

9. *Sympathizes*: is affected by emotion another feels: e.g., feels sad with another child; attempts to cheer him; or, feels glad with another; laughs with him, etc.

How sympathetic is he?

( ) Decidedly does not sympathize with others	( ) Noticeably unsympathetic	( ) Equally unsympathetic and sympathetic	( ) Sympathetic to a noticeable degree	( ) Decidedly affected by others' feelings

10. *Understands own property rights*: knows his right to a possession he has brought to school, or his right to play with something in his possession when another child wants it

Does he understand his own property rights?

( ) Decidedly does not understand his own property rights	( ) Noticeably does not understand his own property rights	( ) Shows understanding and lack of understanding of own property rights equally	( ) Markedly understands his own property rights	( ) Decidedly understands his own property rights

11. *Sociable*: is companionable, conversible, communicative; is fond of mingling or talking with others

How sociable is he?

( ) Decidedly distant; does not seem fond of mingling or talking with others	( ) Noticeably unsociable	( ) Equally sociable and unsociable	( ) Noticeably sociable	( ) Remarkably communicative; very fond of mingling and talking

12. *Kind*: is disposed to do good and confer happiness; is benevolent; well-disposed

Is he kind?

( ) Remarkable in doing good or conferring happiness	( ) Noticeably kind	( ) Equally kind and unkind	( ) Unkind to noticeable degree	( ) Decidedly unkind; disposed to make others unhappy

13. *Rivals*: shows personal competition; strives to equal or excel

How much rivalry does he show?

( ) Shows rivalry decidedly	( ) Rivalry noticeable	( ) Shows rivalry and lack of rivalry equally	( ) Lack of rivalry noticeable	( ) Decided lack of rivalry

14. *Appreciates humor*: discovers, expresses, or appreciates the ludicrous or incongruous

Does he have a sense of humor?

( ) Remarkable in discovering a ludicrous situation	( ) Appreciates the ludicrous to noticeable degree	( ) Shows sense of humor and lack of it equally	( ) Noticeable lack of sense of humor	( ) Decided lack of sense of humor

15. *Respects social ownership*: respects joint ownership of group: e.g., takes ''turns'' at slide, watering plants, etc.

Does he respect social ownership?

( ) Decidedly lacks respect for social ownership	( ) Noticeably shows lack of respect for social ownership	( ) Shows respect and lack of respect for social ownership equally	( ) Noticeably respects social ownership	( ) Remarkable in respect for social ownership

16. *Socially controlled*: is subject to influence of will of the group

Is he socially controlled?

( ) Decidedly controlled by group	( ) Noticeably subject to group control	( ) Controlled by group and not controlled equally	( ) Noticeably not controlled by group	( ) Decidedly not controlled by group

17. *Leads*: has initiative, self-reliance, decisiveness, and tact to inspire others to follow or to coöperate

Is he a leader or a follower?

( ) Decidedly a follower	( ) Noticeably a follower	( ) Equally a leader and a follower	( ) Noticeably leads; quick to direct the activity	( ) Remarkable as a leader

18. *Imitative*: takes suggestion from behavior of others in his group; does what he sees others do

How imitative is he?

( ) Remarkably imitative	( ) Influenced to do what others do to noticeable degree	( ) Shows imitation and lack of it equally	( ) Noticeably lacks imitation	( ) Remarkable in lack of imitation

19. *Teases*: annoys others in petty ways

Does he tease others?

( ) Teases decidedly	( ) Noticeably teases	( ) Shows teasing and lack of teasing equally	( ) Noticeably lacks teasing	( ) Decidedly lacks teasing

20. *Maternal:* is motherly as an adult, playing down to another child (often including the directing of the others' activities)
How maternal is he?

( ) Remarkably maternal	( ) Noticeably maternal	( ) Shows maternal activity and lack of maternal activity equally	( ) Noticeable for lack of maternal activity	( ) Decidedly not maternal

21. *Jealous:* is jealous of playmates or adults
Is he jealous?

( ) Remarkably jealous	( ) Noticeably jealous	( ) Shows jealousy and lack of jealousy equally	( ) Noticeable lack of jealousy	( ) Decided lack of jealousy

22. *Self-defensive:* defends himself actively when crossed
How much self-defense does he show?

( ) Remarkably active in self-defense	( ) Noticeably active in self-defense	( ) Shows self-defense and lack of self-defense equally	( ) Noticeably passive when crossed	( ) Decidedly passive when crossed

23. *Irresponsible for self:* take no responsibility for himself
How irresponsible is he?

( ) Remarkably irresponsible for self	( ) Noticeably irresponsible for self	( ) Equally responsible and irresponsible for self	( ) Noticeably responsible for self	( ) Decidedly responsible for self

24. *Critical*: critical of behavior of others: e.g., actions, words, attitudes, work

Is he critical of others?

( ) Remarkably critical
( ) Noticeably critical
( ) Equally critical and uncritical
( ) Noticeably uncritical
( ) Decidedly uncritical

25. *Selfish*: cares supremely for self; regards own comfort or advantage in disregard or at expense of that of others

Is he selfish?

( ) Decidedly selfish
( ) Noticeably selfish
( ) Equally selfish and unselfish
( ) Noticeably unselfish
( ) Decidedly unselfish

26. *Sensitive*: is affected by negative criticism

How sensitive is he?

( ) Remarkably sensitive
( ) Noticeably sensitive
( ) Equally sensitive and insensitive
( ) Noticeably insensitive
( ) Decidedly insensitive

27. *Irresponsible for others*: takes no responsibility for others

Is he irresponsible for others?

( ) Remarkably irresponsible for others
( ) Noticeably irresponsible for others
( ) Equally responsible and irresponsible for others
( ) Noticeably responsible for others
( ) Decidedly responsible for others

28. *Socially conformant*: keeps the social observances of the group: e.g., waits for others to be served before drinking orange juice, etc.

Does he show social conformance?

( ) Decidedly shows social conformance
( ) Noticeably shows social conformance
( ) Shows social conformance and lack of it equally
( ) Noticeably shows lack of social conformance
( ) Remarkable in lack of social conformance

29. *Impolite*: does not say "please," "thank you," "excuse me," "good morning," etc.
How impolite is he?

( ) Remarkably impolite	( ) Noticeably impolite	( ) Polite and impolite equally	( ) Noticeably polite	( ) Remarkably polite

30. *Ascendant*: is dominant; is of paramount influence over individuals or group (*Submissive*: yielding; adjusts behavior to that of ascendant individuals)
Is he ascendant?

( ) Remarkably ascendant	( ) Noticeably ascendant	( ) Equally ascendant and submissive	( ) Noticeably submissive	( ) Remarkably submissive

situation, in which the child obeys the rule which demands respect for the property rights of others, is found in the following record:

> M264, M350, and M379 were playing at the work bench. M264 started toward the shelf nearby to get himself some nails. M351 said, ''Here are some nails,'' as he pointed to nails lying in front of M379's place. M264 replied: ''That ain't nice to take 'em away from somebody. I'm not going to do that.''

Several advantages on the side of content and of facility in rating characterize the rating scale. The wide range of social behavior responses of young children to the social environment of the preschool group is covered by the scale. Each trait is defined in terms applicable to preschool situations. A question is asked concerning each trait in order to focus attention directly upon the trait. Although the raters are not asked to use numerical measures in their ratings, the descriptive phrases are quantitative, and may be treated statistically. ''Good'' and ''bad'' ends of the scale, estimated as such by the writer, are alternated for the purpose of counteracting the effect of a motor tendency to check at one edge of the blank, should such a tendency appear. Raters have found this modified form of the graphic rating scale easy to understand, and quickly rated. In order to avoid the ''halo'' effect, described by Thorndike (80) and Knight (37) as the rating of all traits on the basis of a general impression, raters were asked to rate the entire group on one trait before taking up another. This procedure had been used successfully by Kingsbury (36).

Raters and Their Qualifications

The fifteen raters, with five exceptions, were graduate students majoring in child psychology. All the raters were experienced in observing children. Only teachers and assistants, whose knowledge of the children in the preschool situation was quite thorough, rated the children.

Kornhauser (39) found that the reliability of average ratings increases with the number of separate ratings entering into the average up to four. Since, in general, only three persons knew the children in the preschool groups thoroughly, an average of three raters' estimates was used as a composite rating. In a few instances in which one of the raters did not rate all the traits, averages were based on two ratings. The average ratings were found after the numerical values five, four, three, two, and one had been assigned, from left to right, to the five divisions of the scale. For example, the five degrees of obedience were scored as follows:

( )	Decidedly submissive to authority	5
( )	Noticeably obedient	4
( )	Equally obedient and disobedient	3
( )	Noticeably disobedient	2
( )	Refuses to obey decidedly; does what is prohibited	1

Reliability of the Raters.——Three raters made ratings for thirty children in common, a number large enough to justify the computation of coefficients of correlation between their ratings. The reliability of these three raters is as follows:

	r	P.E.
Rater A with R	.82	±.04
Rater R with H	.77	±.05
Rater H with A	.62	±.08
Average	.74	±.06

Correlations between the ratings of R and H, and H and A are for twenty traits; and between the ratings of A and R, for thirty traits. H did not rate ten traits for a very few children. These coefficients of reliability are significant[15] and fairly high. The three raters, therefore, may be said to be fairly reliable in their ratings.

Analysis of the Social Behavior Ratings

Table 3 shows the ratings on thirty social behavior traits for the 104 children included in the investigation. The rating given for each trait for each child was, in general, the average of the ratings of three raters. In a few traits the ratings were the average of two raters' opinions. Sixty-two children were rated once; eighteen, twice; and two, three times. For fourteen of these children, the additional ratings were made after a period of a year; for four, after two months; and for two, after two months, and again after a year. A study of the gains and losses in the thirty traits showed that the twenty children tended to grow as the means for the age groups. Table 4 indicates that the children's respective age groups had grown, with an exception of one trait, criticism. While the means of two-year-old children, three-year-old children, and the

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[15] Garrett, Henry G.: Statistics in Psychology and Education. New York: Longmans, Green, 1926. Pp. viii, 317. (p. 170)

"It is customary . . . . not to consider an r as reliable—as indicative of a correlation at least better than 0—unless it is at least 4 times its P.E. To be certain of a low degree of correlation an r should be 5 or 6 times its P.E."

TABLE 3

Ratings on Thirty Social Behavior Traits of 104 Children according to Age

Child	Trait																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	Rating																													
	2 Years																													
M263	2.7	3.3	3.3	2.3	3.0	2.0	2.0	2.3	3.3	2.7	3.0	3.0	2.7	3.0	3.3	2.7	3.7	3.3	3.0	2.3	2.0	3.0	3.3	2.0	3.0	3.0	4.0	2.7	3.0	2.7
M290	2.3	2.3	3.3	2.3	2.7	2.7	2.0	3.0	3.3	2.0	2.7	3.0	3.0	3.7	3.7	2.7	3.0	2.7	3.7	2.3	2.3	3.0	3.7	2.7	3.3	2.7	3.3	2.7	3.0	3.3
M311	2.3	2.7	3.3	4.0	4.7	3.3	2.0	4.0	1.7	2.7	2.7	3.0	2.0	2.7	3.7	2.7	4.0	4.7	4.7	2.3	4.3	4.3	3.3	2.3	4.7	4.0	4.0	3.3	3.0	3.7
M399	4.3	3.7	2.3	3.3	4.3	2.3	3.7	2.3	2.3	3.0	3.7	4.3	1.7	4.3	2.3	2.3	3.0	3.0	2.0	4.0	3.7	2.3	2.0	3.0	2.3	4.3	3.7	3.5	1.7	2.0
M392	4.0	4.0	3.3	2.3	4.7	4.3	2.3	2.3	3.7	2.0	3.3	4.0	2.0	4.0	2.7	3.7	3.0	3.3	3.7	2.5	4.3	4.3	2.0	4.3	3.7	3.7	3.7	3.7	2.3	3.0
M324	3.0	3.3	2.0	2.0	3.3	1.7	2.3	1.7	3.0	3.0	3.0	2.5	3.0	4.0	3.7	2.3	3.5	3.7	4.3	2.0	3.7	3.7	2.7	1.0	4.0	3.3	3.5	3.0	3.0	3.3
F306	2.3	3.7	3.7	2.3	3.0	3.0	2.3	3.3	2.7	2.3	2.3	2.7	3.7	4.0	3.3	3.0	2.7	3.3	3.7	3.7	3.0	3.7	2.3	3.7	3.3	3.7	2.3	2.7	2.7	3.3
F360	1.7	3.3	2.0	4.0	4.3	2.7	2.3	3.7	2.7	4.3	2.7	3.7	2.7	2.0	3.3	4.0	4.0	4.7	3.5	4.0	4.0	3.7	4.7	1.7	3.7	3.7	4.7	3.3	3.5	1.7
F362	4.0	4.0	4.3	2.0	4.3	4.0	3.3	4.0	2.0	2.3	1.7	4.3	3.3	3.0	2.3	4.0	3.0	4.3	4.0	4.3	3.7	3.0	1.3	3.7	3.3	4.0	2.3	3.7	2.3	3.0
MA32	1.7	4.0	3.7	1.7	3.7	4.0	3.7	4.0	2.0	1.3	2.0	4.7	4.7	4.0	3.7	3.0	3.0	4.7	4.0	3.0	4.3	4.7	2.3	3.3	4.3	4.0	3.3	3.7	2.3	3.7
MA33	4.0	2.0	1.3	3.3	3.7	1.7	4.0	2.7	2.7	2.7	4.0	4.0	1.7	2.3	2.0	2.7	4.3	2.7	2.0	2.7	2.7	2.3	4.0	1.3	2.0	4.0	4.3	2.3	2.2	1.3
M272	4.3	4.0	4.3	4.0	4.7	4.0	3.7	4.0	2.7	3.7	2.7	4.0	2.7	4.3	2.7	4.0	3.3	4.0	4.0	3.7	4.0	4.3	3.3	3.7	4.3	4.7	3.7	3.7	2.7	2.7
M390	4.0	3.7	4.7	1.7	4.0	4.0	4.0	3.7	4.7	1.7	4.0	4.0	3.3	3.7	2.0	3.3	2.3	2.7	3.0	2.7	2.3	3.0	2.0	4.0	2.0	4.3	3.0	3.7	3.0	3.3
M379	3.0	2.0	3.0	3.3	4.0	2.7	3.7	1.3	2.3	3.0	3.0	4.0	2.3	4.0	1.3	3.0	4.0	3.0	2.7	2.0	2.0	3.0	2.7	2.0	2.0	2.7	3.3	3.0	2.0	2.0
M279	2.0	2.3	3.0	2.3	3.0	2.3	1.7	1.3	2.0	2.0	2.7	3.0	3.0	4.3	4.3	1.3	3.0	3.0	4.3	2.3	2.0	4.3	3.3	2.0	3.7	2.0	3.7	1.0	4.0	3.0
M281	2.7	3.3	3.3	2.7	3.3	3.3	2.0	2.7	2.3	3.3	2.0	2.7	3.3	3.3	3.3	2.7	3.0	3.3	4.3	2.3	2.3	3.3	2.7	2.7	3.3	3.0	3.3	2.7	2.7	3.0
MA30	3.7	2.3	1.7	2.7	3.3	2.0	2.7	2.0	3.0	1.7	3.3	3.0	2.3	3.3	2.0	2.0	3.0	2.3	3.0	2.3	3.0	3.7	2.7	3.0	3.0	4.0	3.5	3.3	3.0	3.0
MA31	2.3	3.7	2.0	2.7	3.7	1.7	2.7	2.0	2.7	2.3	3.0	3.0	2.5	4.7	3.3	2.3	1.5	3.3	4.3	3.0	3.0	3.0	3.3	3.0	3.3	2.0	3.0	3.0	3.0	2.5
M356	2.0	3.3	2.3	4.0	3.7	2.0	1.7	1.3	3.0	3.3	3.7	3.3	2.0	3.7	2.7	1.7	4.0	3.7	1.7	1.3	3.0	2.3	4.3	2.3	4.3	3.7	4.7	1.3	3.7	2.0
M378	3.0	3.7	2.3	3.0	4.0	2.0	3.0	1.3	2.0	2.7	3.3	3.7	1.3	2.3	3.3	2.0	4.7	3.7	3.7	2.3	2.0	3.0	4.0	2.0	3.0	4.0	4.7	1.7	3.3	2.3
F320	4.7	2.3	2.0	3.7	2.3	2.3	4.0	2.3	3.0	2.5	4.3	4.0	2.3	1.3	3.3	2.3	4.3	4.7	3.3	2.0	4.3	2.3	4.3	1.3	3.0	4.7	4.3	2.0	3.0	1.3
F250	4.0	4.0	3.0	4.0	5.0	2.0	2.7	2.3	2.0	2.5	2.5	4.0	2.3	3.7	3.0	3.0	4.0	3.7	2.0	3.0	3.7	4.0	3.0	4.0	3.3	3.3	2.7	3.3	2.0	3.0
F327	3.0	2.3	2.3	2.7	3.0	2.0	2.7	2.7	2.7	2.0	4.0	3.0	3.0	2.7	2.7	2.0	3.3	2.7	2.0	3.3	2.0	3.3	2.3	2.0	3.7	3.3	3.7	3.3	2.5	2.7
F342	3.7	2.7	3.0	3.0	3.7	3.0	3.3	3.0	2.7	1.7	3.3	3.7	3.0	3.3	3.3	3.0	3.7	3.7	2.7	3.5	2.5	3.7	3.0	3.5	3.0	3.3	3.7	3.0	2.5	2.7
F256	3.0	3.3	2.3	4.3	4.3	2.3	3.3	1.7	1.7	2.0	4.3	3.3	2.7	3.3	2.7	2.3	4.0	3.0	2.3	2.7	2.7	3.3	2.3	3.0	3.0	3.7	3.3	3.0	2.7	2.3
F303	4.3	3.0	4.0	2.3	3.7	3.3	3.3	3.5	2.7	2.3	3.3	4.0	2.3	3.0	3.0	3.0	3.0	3.3	2.7	3.3	2.0	2.7	2.3	2.7	2.7	3.3	3.0	3.0	2.3	2.7

F380	3.3	2.3	3.7	2.0	2.7	2.3	1.7	2.0	3.0	3.3	3.3	2.0	3.7	3.0	4.0	2.0	3.3	3.0	3.0	2.0	2.0	4.0	4.3	2.3	3.0	3.3	4.3	1.3	2.0	2.3
F348	2.7	3.3	4.0	2.0	4.0	4.3	3.0	4.0	1.7	1.3	2.0	3.3	4.0	5.0	3.0	4.0	3.3	3.7	4.0	4.0	2.0	4.0	2.0	3.3	2.7	3.7	2.3	3.7	2.3	3.7
F391	3.0	2.0	2.0	4.0	1.7	2.7	3.3	1.0	3.7	2.7	4.0	3.3	2.0	4.0	2.7	2.7	4.7	3.0	2.3	2.0	2.5	2.7	4.0	2.0	3.3	3.3	5.0	3.3	3.7	2.0
	3 Years																													
M263	1.7	4.7	3.7	1.3	3.3	4.7	2.7	4.3	1.7	2.0	1.3	3.0	3.3	3.7	4.3	2.3	2.0	4.0	4.9	3.0	4.7	4.0	2.0	4.7	4.7	4.3	1.7	3.7	2.3	4.0
M290	2.0	3.7	3.0	2.7	2.7	2.7	2.3	3.3	3.7	2.0	2.7	2.0	3.7	3.3	4.0	2.7	3.0	4.7	4.7	1.7	4.3	4.3	2.0	2.3	4.7	3.7	4.3	2.7	3.7	4.0
M264	4.0	4.3	3.0	3.7	4.0	3.7	4.7	2.3	2.0	2.0	2.0	4.7	3.3	3.3	1.3	4.0	4.3	4.0	3.0	3.0	2.0	1.7	3.0	4.0	2.3	4.0	2.7	4.3	2.0	2.0
M300	3.0	3.3	3.0	2.0	3.0	2.3	2.7	2.0	2.3	1.3	3.0	3.0	4.0	4.3	3.0	1.0	2.0	2.0	3.0	2.0	3.7	4.3	2.0	3.0	3.3	3.7	3.0	3.0	3.0	3.0
M299	2.3	3.7	2.7	4.0	3.3	2.0	3.0	2.0	2.0	2.0	3.7	3.7	1.7	3.0	2.3	3.0	3.3	2.7	2.0	2.3	4.0	3.0	3.3	4.0	3.0	3.3	3.3	4.0	1.3	4.0
MA10	4.0	3.0	2.7	3.3	4.0	2.7	4.0	3.3	2.3	2.3	2.7	4.0	2.5	3.3	2.0	3.7	4.0	3.7	2.0	4.0	2.0	3.0	2.7	3.0	2.0	4.0	3.0	4.0	3.0	2.0
M382	2.3	3.0	2.7	2.0	2.3	2.3	2.7	2.0	3.3	1.0	3.7	3.3	3.5	2.3	3.0	2.5	3.0	3.0	3.0	2.0	2.5	3.7	3.0	2.0	3.7	3.0	3.7	2.3	3.0	3.0
M329	4.0	4.0	3.7	3.3	4.0	3.0	4.3	3.3	2.3	2.3	2.3	4.0	3.0	3.3	2.0	4.0	3.7	4.0	3.0	2.3	3.0	2.7	2.7	2.5	2.0	3.3	3.0	4.3	2.0	2.3
M370	3.7	3.0	3.0	2.7	4.0	3.7	3.0	2.0	2.3	1.3	2.7	3.0	3.0	3.0	3.0	2.7	3.7	2.7	2.3	4.0	3.0	3.3	2.0	3.3	3.7	3.7	3.3	4.0	1.7	3.0
F306	3.3	4.0	4.3	1.7	2.7	4.0	3.3	4.0	4.0	2.0	2.0	3.0	4.7	4.3	3.3	4.0	2.0	3.7	3.0	3.7	4.3	4.7	1.7	3.3	4.0	1.7	1.7	3.7	3.0	4.3
M395	2.0	4.3	4.3	1.3	3.0	4.0	2.3	4.0	3.7	2.0	1.7	3.0	4.3	3.7	3.7	4.0	1.7	3.0	4.3	3.0	4.7	4.7	1.3	4.0	4.7	4.3	2.3	3.7	3.0	4.7
M350	2.7	3.7	4.3	3.0	3.7	3.7	2.0	3.0	2.7	1.3	1.3	2.7	2.5	3.0	2.7	3.0	3.7	3.3	3.3	1.7	3.3	4.0	4.3	3.7	3.7	2.7	3.7	3.0	4.3	3.0
M264	5.0	3.3	4.3	1.7	3.7	4.0	4.3	3.7	2.0	2.0	2.0	5.0	3.7	3.7	1.0	4.0	3.0	2.7	2.7	3.7	3.0	2.7	1.7	3.7	2.0	5.0	2.0	4.7	1.7	3.7
M279	3.3	3.0	3.3	1.3	3.0	3.0	2.0	2.0	3.0	1.3	3.0	2.7	4.0	4.3	4.5	2.3	3.0	3.7	4.3	2.7	1.3	3.0	2.0	3.7	3.3	3.7	3.7	2.7	4.0	3.0
M368	1.7	2.7	3.7	1.0	2.3	4.0	1.3	2.7	4.0	2.0	1.7	2.7	4.3	2.7	4.3	1.7	3.3	4.3	3.7	1.0	2.7	4.7	4.0	2.0	3.0	1.7	4.7	1.7	4.0	3.0
M379	3.3	4.3	4.0	3.0	5.0	4.0	3.0	4.0	1.3	1.0	2.0	2.7	4.0	4.0	3.0	4.0	3.0	3.0	3.7	3.7	2.3	4.3	3.3	3.0	3.3	4.3	3.3	3.7	2.0	4.0
F284	2.7	4.0	3.0	1.3	2.7	2.0	3.0	2.3	2.7	1.7	2.0	4.0	4.0	4.0	4.0	3.0	3.0	2.3	2.7	2.3	2.0	4.0	1.3	3.0	3.3	2.3	3.0	2.3	3.0	4.0
F284	4.0	3.0	2.7	1.0	3.7	2.0	4.7	3.3	2.0	1.0	2.0	4.0	3.0	4.0	2.0	2.3	2.7	2.0	1.3	2.0	2.7	4.3	2.0	4.0	2.3	4.0	3.0	4.0	2.0	3.7
F292	3.7	3.0	5.0	1.3	3.7	5.0	3.0	5.0	1.7	1.7	1.0	4.7	4.0	4.0	2.7	2.7	1.3	2.7	3.0	4.7	3.0	4.3	1.0	3.3	3.0	3.7	1.0	3.7	2.0	4.0
F252	4.0	2.7	3.0	2.3	4.0	3.0	4.3	3.0	2.7	2.0	3.7	4.0	3.0	4.0	2.0	3.0	3.0	3.0	2.3	3.7	2.0	3.7	2.0	2.7	2.0	4.0	3.0	4.3	2.0	2.7
F221	3.0	4.3	4.3	2.7	3.3	3.7	3.0	3.7	2.3	2.0	2.0	3.3	3.3	3.3	3.0	3.3	2.3	3.0	2.7	3.3	3.7	3.7	2.0	4.0	4.0	3.7	3.0	3.3	2.7	4.0
F316	3.7	3.0	4.0	3.0	3.0	4.0	3.7	3.0	3.0	2.0	2.3	3.7	3.0	3.0	2.7	4.7	4.3	4.3	3.0	3.0	4.0	3.3	2.3	3.0	3.0	3.0	3.7	3.7	2.0	2.0
F278	3.7	3.0	5.0	1.3	4.0	5.0	4.0	4.7	2.0	1.3	1.0	4.0	3.3	3.0	2.0	2.7	2.0	3.0	2.7	4.0	2.0	3.7	1.7	3.0	2.7	3.7	2.0	4.0	3.0	3.3
F332	3.0	2.0	2.7	2.7	2.7	2.0	3.0	2.3	3.7	2.0	3.7	2.7	4.0	2.0	2.7	3.0	3.7	3.3	1.3	2.0	3.0	3.3	3.0	3.0	3.3	3.7	4.0	4.0	3.0	3.0
F363	3.3	4.3	4.7	2.0	4.0	4.0	3.7	4.0	2.3	2.0	1.7	3.7	4.0	4.0	3.0	3.0	3.3	3.0	3.3	5.0	3.3	3.3	2.0	4.0	2.7	4.3	1.3	4.3	2.7	3.7
F196	3.3	3.3	4.0	3.0	3.7	3.7	3.3	3.7	2.7	2.0	2.7	3.3	2.7	3.7	2.7	3.3	3.3	3.7	2.7	3.0	3.3	3.3	2.0	3.3	3.3	4.0	3.0	3.7	2.7	2.3
FA16	3.3	3.3	3.0	1.3	2.5	3.0	4.0	2.3	2.3	2.0	3.0	4.0	3.3	3.3	2.3	2.7	3.0	2.7	3.5	3.0	3.5	3.7	1.3	4.0	3.0	4.0	1.7	4.0	3.0	2.7
FA17	3.0	2.7	2.0	3.0	3.0	2.0	3.0	2.3	3.0	3.0	4.0	3.5	2.0	3.0	3.0	3.3	4.3	3.0	3.0	3.0	2.5	3.0	2.0	2.3	2.0	2.7	3.5	2.7	2.5	2.3
FA18	4.3	4.0	4.0	3.0	3.7	3.7	4.3	3.7	3.0	2.0	2.3	4.0	3.0	3.0	2.0	4.0	3.7	3.7	2.5	3.7	3.0	2.5	2.0	3.7	2.7	4.3	2.3	4.0	2.7	2.3
FA19	4.7	2.7	4.3	1.7	3.7	4.3	3.7	4.0	2.0	2.0	1.7	4.3	3.3	3.7	2.3	4.0	2.3	4.0	3.7	4.7	3.0	4.0	1.7	3.7	4.0	4.0	2.0	3.7	2.7	3.5

TABLE 3 (Continued)

Ratings on Thirty Social Behavior Traits of 104 Children according to Age

Child	Trait																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	Rating																													
	3 Years																													
F375	3.0	4.7	4.3	2.0	4.0	4.3	3.3	4.7	2.3	2.0	1.3	3.3	4.3	2.0	2.7	2.7	2.0	3.7	2.0	4.0	1.7	4.0	3.0	4.0	3.0	3.7	2.7	2.7	2.7	4.3
F396	4.3	3.7	4.7	1.3	3.0	4.7	4.3	3.7	3.3	1.7	2.3	3.7	3.3	1.7	2.0	4.0	3.0	3.7	1.7	3.7	3.3	3.7	1.7	3.7	3.3	3.7	2.7	4.3	2.7	3.0
F256	2.3	3.7	4.0	1.3	3.7	3.7	2.7	3.3	1.3	1.3	3.3	4.3	3.0	2.0	3.3	2.0	4.0	3.0	3.3	4.3	4.3	4.0	1.3	4.0	4.0	4.7	1.7	3.0	1.7	3.5
F278	3.7	3.0	5.0	2.3	4.0	5.0	3.0	4.7	2.0	2.0	2.3	4.0	4.0	3.0	4.0	3.7	3.0	4.0	1.3	3.7	2.0	4.0	2.3	3.0	3.0	4.0	2.0	4.0	2.0	3.7
F250	3.7	3.3	3.3	3.7	5.0	2.7	3.3	2.3	1.7	1.7	2.7	3.3	4.0	3.7	2.3	3.0	3.7	3.0	3.0	4.0	3.7	4.3	3.0	3.0	3.0	4.3	3.3	4.0	2.3	2.7
F309	1.3	3.3	5.0	1.0	2.0	4.0	1.0	4.0	4.0	2.0	1.0	2.0	5.0	4.0	5.0	1.0	2.0	3.7	5.0	2.0	4.0	5.0	3.0	4.0	5.0	1.3	4.3	2.0	2.0	5.0
F252	4.0	3.0	3.0	2.3	3.0	3.0	4.3	3.0	3.7	2.0	3.3	4.0	3.0	3.0	2.0	2.3	3.7	3.3	2.7	3.7	2.0	3.7	2.0	2.0	2.3	4.0	3.7	4.0	2.0	2.7
FA11	1.7	2.7	3.7	1.3	3.0	2.7	1.0	1.0	3.3	2.3	2.3	1.7	3.7	3.3	4.7	1.7	1.7	2.0	4.0	3.7	3.7	5.0	2.3	3.0	4.3	2.3	2.3	2.7	3.5	4.3
FA12	4.0	4.0	3.3	1.7	3.0	2.7	4.3	4.3	2.3	1.7	2.3	4.0	3.3	2.7	1.7	3.0	3.0	2.7	1.5	3.3	3.3	4.3	1.0	4.0	3.3	4.3	2.0	4.7	1.5	2.7
F340	2.3	2.3	1.3	2.0	2.3	1.0	3.0	1.3	3.3	2.0	5.0	3.0	2.0	2.5	3.0	1.0	3.7	2.0	1.3	2.5	3.0	4.0	2.3	2.5	3.3	3.3	3.7	2.3	2.5	3.3
F351	3.0	4.0	2.3	1.7	4.0	2.0	1.3	1.7	3.0	4.0	2.7	2.0	2.3	1.7	4.0	2.3	4.5	3.0	4.0	2.7	2.0	4.3	2.3	2.3	3.3	2.0	4.3	3.0	2.0	2.7
F357	4.0	4.0	3.7	1.7	3.3	2.7	3.0	1.7	2.7	1.7	3.0	3.0	4.0	4.0	4.0	3.0	3.0	3.0	2.7	2.3	4.0	5.0	1.7	3.0	3.0	3.7	3.0	4.0	3.7	3.7
F327	4.0	3.3	2.7	2.3	2.7	2.7	3.7	2.0	3.3	2.3	4.0	3.3	2.0	3.3	2.0	2.3	4.0	3.0	3.3	1.7	3.7	2.7	2.7	1.5	3.3	4.0	3.3	3.7	3.7	2.7
F383	3.0	4.0	5.0	1.0	5.0	4.7	3.7	5.0	2.0	1.3	1.0	3.0	3.7	4.3	3.3	4.0	2.0	3.7	2.7	4.7	3.5	4.3	1.3	4.3	3.0	3.7	2.0	4.0	3.0	4.0
F303	4.7	1.7	3.0	1.0	2.3	3.0	4.0	2.0	3.0	2.0	3.3	3.7	1.7	3.7	1.7	2.3	3.3	2.7	2.7	2.7	2.0	3.3	1.0	1.7	1.7	4.0	2.7	3.7	2.3	3.0
M300	4.0	3.3	2.3	1.0	4.3	3.0	4.3	3.0	2.3	1.0	2.3	4.0	3.0	4.0	2.0	1.7	2.3	2.0	2.3	3.0	2.3	4.0	1.3	2.0	3.0	4.3	3.0	4.0	3.0	3.7
M254	2.0	4.7	5.0	1.0	2.3	4.3	1.7	3.0	4.0	1.0	1.3	2.3	5.0	2.3	4.0	1.3	1.3	2.3	4.3	3.7	4.0	5.0	2.0	4.0	4.0	1.3	3.3	2.0	4.0	5.0
M254	2.7	4.7	5.0	1.0	3.0	4.7	2.0	4.7	3.3	1.0	1.0	3.0	4.7	5.0	3.3	2.0	1.7	2.0	3.3	3.7	2.7	4.7	2.0	4.0	3.7	2.7	3.0	2.0	3.0	4.3
M347	1.7	4.3	4.3	1.0	3.0	4.7	1.0	4.0	3.7	1.3	1.0	2.3	4.3	4.0	4.3	1.5	2.3	3.0	4.3	4.0	4.0	5.0	2.0	4.0	4.0	2.7	4.0	2.0	2.3	4.3
M209	3.3	3.3	4.3	2.3	4.0	3.7	3.3	4.0	2.3	2.0	2.3	3.7	3.3	3.0	3.0	3.3	3.0	3.0	2.7	3.7	3.0	3.7	2.3	3.3	3.0	4.3	2.7	3.3	2.3	3.0
MA13	3.3	3.0	2.7	3.3	3.3	3.0	3.3	2.7	2.7	2.7	3.3	3.7	3.3	2.7	2.7	3.3	4.0	4.0	2.7	3.0	2.5	3.3	3.3	2.7	2.7	3.3	3.0	3.7	2.7	2.3
MA14	3.0	2.3	2.7	4.0	4.0	2.0	3.3	1.7	2.7	1.7	3.0	3.5	2.3	3.0	2.3	3.0	4.0	4.0	3.7	3.3	2.0	3.0	4.0	3.0	3.0	3.0	3.7	2.7	2.7	1.7
MA15	2.0	2.7	3.3	2.3	3.0	2.0	1.7	1.7	2.5	3.0	3.3	2.0	3.0	3.0	4.7	2.3	2.7	2.7	3.7	3.3	3.3	5.0	4.0	2.7	4.7	2.3	4.0	2.3	3.3	3.7
	4 Years																													
M349	1.0	5.0	5.0	1.3	2.3	4.3	1.0	4.0	3.7	1.3	1.0	2.0	4.3	4.0	5.0	1.3	1.7	1.7	4.3	4.0	5.0	1.3	1.7	1.7	4.0	4.7	4.0	5.0	2.3	4.0
MA20	3.0	3.0	4.7	1.7	3.3	4.0	2.7	3.3	2.7	2.0	2.0	3.0	3.3	3.3	3.3	3.7	2.7	3.3	3.3	3.3	3.3	3.7	2.7	3.3	4.0	2.7	3.5	4.7	3.0	2.0

MA21	4.3	3.7	4.0	3.7	3.3	3.7	4.0	3.0	2.7	3.3	3.0	3.5	3.3	2.5	2.0	4.3	3.7	3.7	3.3	2.5	2.0	4.3	3.7	3.7	3.0	2.0	2.5	2.7	2.7	3.7
MA22	4.0	3.3	4.0	2.0	3.7	4.0	4.0	4.0	2.3	2.0	2.0	4.0	3.3	2.5	2.0	4.0	3.0	3.3	3.3	2.5	2.0	4.0	3.0	3.3	2.5	2.3	3.0	3.7	1.7	3.7
M254	3.3	3.0	4.0	1.0	3.0	4.7	3.3	3.3	2.0	1.3	1.7	3.7	4.7	4.0	3.0	3.3	1.0	2.0	4.7	4.0	3.0	3.3	1.0	2.0	4.0	2.7	1.7	5.0	2.0	3.3
M304	2.0	3.3	3.3	1.3	3.0	3.7	2.0	2.7	2.7	1.3	1.3	3.3	4.0	3.7	2.7	3.0	2.7	3.3	4.0	3.7	2.7	3.0	2.7	3.3	3.7	2.3	3.7	4.7	2.7	3.7
F365	2.7	4.7	4.7	1.3	3.0	4.3	3.0	4.0	2.0	2.0	1.3	3.7	4.7	3.0	3.3	4.0	2.7	4.7	4.7	3.0	3.3	4.0	2.7	4.7	4.0	3.3	3.7	4.3	1.7	4.3
F346	2.0	4.0	5.0	1.0	2.7	4.3	1.3	4.3	3.7	1.3	1.0	3.0	4.7	4.0	4.3	2.0	1.7	1.3	4.7	4.0	4.3	2.0	1.7	1.3	4.0	3.7	3.0	4.3	2.0	4.0
F159	2.7	4.0	5.0	1.3	3.0	4.7	3.0	5.0	3.0	1.0	1.0	3.0	4.0	4.0	4.7	2.0	1.7	3.0	4.0	4.0	4.7	2.0	1.7	3.0	5.0	4.0	3.0	5.0	1.0	4.3
FA23	3.7	4.7	3.7	4.7	4.7	4.0	3.7	3.7	2.0	2.3	2.0	4.0	3.7	4.0	3.3	3.7	2.7	3.3	3.7	4.0	3.3	3.7	2.7	3.3	4.0	3.7	3.0	3.7	2.7	3.3
FA24	1.3	4.0	2.3	2.0	1.7	3.3	3.3	1.7	4.0	2.3	3.3	3.3	3.0	3.7	2.7	2.0	3.0	2.0	3.0	3.7	2.7	2.0	3.0	2.0	4.0	2.7	3.7	4.3	1.7	2.7
FA25	4.0	3.0	3.7	1.7	4.0	4.3	4.3	4.3	1.5	1.7	2.7	4.3	3.0	3.0	1.3	4.0	3.3	3.0	3.0	3.0	1.3	4.0	3.3	3.0	3.0	3.7	2.5	3.0	1.0	2.3
F278	4.0	4.0	4.0	2.3	4.0	4.0	4.3	3.3	1.7	1.3	2.0	4.0	3.0	3.3	1.7	3.7	2.7	2.7	3.0	3.3	1.7	3.7	2.7	2.7	2.0	4.0	3.3	4.0	2.0	3.7
F252	5.0	2.0	2.0	3.7	2.7	2.7	4.0	2.3	3.3	2.7	4.3	3.5	1.3	2.3	1.7	4.3	4.7	4.0	1.3	2.3	1.7	4.3	4.7	4.0	1.0	2.7	1.7	1.3	3.0	1.3
F316	4.3	3.7	4.0	2.0	4.3	4.7	3.7	4.0	2.3	1.7	1.7	4.0	4.0	3.3	2.7	4.0	2.3	2.3	4.0	3.3	2.7	4.0	2.3	2.3	2.0	2.7	2.3	3.0	1.7	3.0
F221	1.3	3.3	2.7	2.0	2.7	3.7	1.3	2.0	3.3	1.7	1.7	2.3	3.0	2.7	4.3	2.0	1.3	2.7	3.0	2.7	4.3	2.0	1.3	2.7	3.3	4.7	3.0	5.0	3.3	5.0
MA26	3.7	3.3	5.0	1.3	3.0	4.3	3.3	4.0	2.0	1.7	1.3	3.0	4.3	4.0	2.7	3.0	1.3	3.3	3.5	2.7	3.7	5.0	1.3	4.3	3.0	4.0	2.0	3.7	3.0	4.7
MA27	2.7	3.7	4.7	1.0	3.3	4.0	3.0	4.0	3.0	1.7	1.0	3.0	4.7	3.7	3.3	3.3	1.3	1.3	4.0	1.3	4.0	5.0	1.3	4.0	4.3	4.0	1.3	5.0	3.3	4.7
MA28	4.0	4.3	4.0	2.7	4.7	4.3	4.7	4.3	1.7	1.7	1.3	4.3	3.3	3.0	2.0	4.3	2.7	3.0	3.0	2.7	3.0	3.7	1.7	3.7	2.7	4.3	2.0	4.3	3.0	3.0
M209	4.0	2.0	2.7	3.0	3.7	2.3	3.3	2.0	2.0	2.0	3.0	4.0	2.0	3.0	2.3	3.3	4.0	3.0	2.7	3.0	2.0	3.0	3.3	2.0	2.7	3.7	3.7	4.0	3.0	2.0
FA29	3.3	4.0	5.0	1.3	4.0	4.3	3.7	3.3	1.7	2.3	1.0	3.7	4.3	3.7	3.0	3.7	2.0	4.3	3.3	4.3	3.3	4.0	1.3	3.7	3.3	3.7	1.7	3.7	2.7	3.7
F292	4.3	4.0	4.0	1.3	4.0	4.3	3.7	4.3	1.7	1.7	1.3	4.3	3.0	4.0	1.3	4.3	2.3	2.7	2.7	4.3	4.0	3.0	1.7	4.0	3.0	4.7	2.0	4.7	1.7	3.7

four-year-old children increases with age, for criticism, a tendency toward a decrease in criticism was found in the group of twenty children. These findings seemed to justify the treatment of the twenty children on their repeated ratings as new cases, and to suggest that the scale may be used for rating children who have been enrolled in the preschool groups for more than one year and that the data obtained from such ratings may be included with the ratings of children enrolled for the first time.

Variability in Social Behavior Traits Within Age Groups.——A study of the ratings given to Table 3 reveals varied distributions for the social behavior traits. The widely divergent ratings for children in the same age group suggests the presence of large individual differences in certain traits. For example, rating for obedience (Trait 1) in the group of children, aged two years to two years, eleven months, and twenty-nine days, vary from noticeable disobedience (rating 1.7) to noticeable obedience (rating 4.3). Again, one four-year-old child lacks self-defense noticeably (Trait 22, rating 1.3), while two of the four-year-olds are decidedly self-defensive (rating 5.0). Similar variability is evident in other traits.

The explanation of the varying distributions of ratings for traits may be found in the influence of either of two factors or of a combination of both; differences in the behavior of the children and the tendency of raters to vary their distribution of ratings from child to child. From the results of the observational studies, to be described later, it seems probable that the varying behavior of the children is most influential in determining the distribution of the ratings.

Significant Differences between Social Behavior Ratings in Three Age Groups.——In order to determine the relation of the traits to age, the probable errors of difference of the means of the ratings were compared for the following age groups: two-year-old with three-year-old children; three-year-old with four-year-old children; and two-year-old with four-year-old children. The formula used was:

$$\text{P.E.}_{\text{diff.}} = \sqrt{\text{P.E.}^2_{m_1} + \text{P.E.}^2_{m_2}}$$

in which the first series of computations, m_1 was the mean of the two-year-old children's ratings, and m_2 the mean of the three-year-old children's ratings, and in the second series, m_1 was the mean of the three-year-old children's ratings and m_2 the mean of the four-year-old children's ratings. In order to be certain that the difference between the two means is significant (i.e. greater than zero) it should be four times the probable error of the difference between the means. If the difference between two means is only a little less than four times the probable error of the difference between the means, it is possibly, but not certainly, a significant difference.

Table 4 gives means of ratings, standard deviations, probable errors of means, and ratios of probable errors of difference between means to differences between means for two-, three-, and four-year-old children. The ratio of the probable error of the means to the difference between the means is given at the extreme right. A plus sign indicates that the mean of the ratings of the older group was higher than that of the younger, and a minus sign, that it was lower. Twenty-nine children were included in the two-year-old group; fifty-three in the three-year-old group; and twenty-two in the four-year-old group.

Significant differences between the means of ratings for the two-year-old and the three-year-old groups were found in thirteen traits; for the two-year-old and the four-year-old groups in twelve traits; and for the three-year-old and four-year-old groups in one trait. The three-year-old and four-year-old groups exceed the two-year-old group in interest in the group, understanding of own property rights, sociability, rivalry, jealousy, responsibility for self, responsibility for others, criticism, social conformance, and ascendance. In addition, three-year-old children exceed two-year-old children in independence of adults and self-defense, and four-year-olds exceed two-year-olds and three-year-olds in coöperation.

No significant differences between the means of ratings for the three age groups were found in sixteen traits: obedience, seeking approbation, sympathy, kindness, humor, respect for social ownership, selfishness, politeness, affection, sensitiveness, motherliness, socially controlled behavior, imitation, respect for the property rights of others, participation, and teasing.

Relation of Social Behavior Ratings to Chronological and Mental Age.——Table 5 shows the correlation of chronological age and mental age with the social behavior ratings for thirty traits. Correlations were made separately for two groups of children, one of

TABLE 4

Means, Standard Deviations, and Probable Errors of Means and Ratios of Differences between Means and Probable Errors of Difference for 104 Children According to Age

Trait Number	Trait Description	Age, Years									Ratio		
		2			3			4			2-3 Years	2-4 Years	3-4 Years
		Number of Children											
		29			53			22					
		Mean	S.D.	P.E.$_m$.	Mean	S.D.	P.E.$_m$.	Mean	S.D.	P.E.$_m$.			
1	Obedience	3.10	1.06	.13	3.18	.88	.08	3.21	1.08	.15	+ 0.5	+ 0.5	+ 0.2
2	Approbation	3.10	.55	.07	3.44	.71	.07	3.45	1.37	.20	+ 3.4	+ 1.7	+ 0.0
3	Interest in group	2.94	.89	.11	3.58	.95	.08	3.98	.88	.13	+ 4.6	+ 6.1	+ 2.6
4	Dependence	2.89	1.13	.14	2.08	.85	.07	1.98	1.52	.22	— 5.1	— 3.5	— 0.4
5	Affection	3.61	.43	.05	3.38	.71	.06	3.37	1.18	.17	— 2.9	— 1.4	— 0.7
6	Coöperation	2.76	.81	.10	3.31	1.00	.09	4.00	.55	.08	+ 3.9	+ 9.7	+ 5.7
7	Respect for others' property rights	2.84	.79	.09	3.11	1.03	.09	3.25	.51	.07	+ 2.1	+ 3.3	+ 1.2
8	Participation	2.60	.86	.11	3.11	1.00	.09	3.47	.95	.13	+ 3.6	+ 2.9	+ 2.2
9	Lack of sympathy	2.66	.69	.09	2.68	.86	.07	2.50	.73	.10	+ 0.2	— 0.1	— 1.4
10	Lack of understanding of own property rights	2.51	.66	.08	1.85	.64	.05	1.83	.50	.07	— 6.6	— 6.2	— 0.2
11	Unsociability	3.08	.72	.09	2.30	1.19	.11	1.86	.90	.13	— 5.6	— 7.7	— 2.6
12	Kindness	3.46	.59	.07	3.37	.74	.06	3.45	1.00	.14	— 0.9	— 0.1	+ 0.5
13	Rivalry	2.74	.75	.09	3.39	.79	.07	3.59	.86	.12	+ 5.4	+ 5.5	+ 1.4
14	Appreciation of humor	3.43	.88	.11	3.27	.89	.08	3.40	53.	.07	— 0.6	— 0.2	+ 1.2
15	Disrespect for social ownership	2.99	.65	.08	2.95	1.06	.10	2.84	1.04	.15	— 0.3	— 0.2	— 0.8
16	Socially controlled behavior	2.71	.84	.10	2.84	.71	.06	3.33	.88	.13	+ 1.1	+ 3.8	+ 3.3
17	Followership	3.43	.70	.08	2.81	1.33	.12	2.48	.91	.13	— 4.1	— 6.1	— 1.8
18	Imitation	3.46	.75	.09	3.16	.69	.06	2.90	.72	.10	— 2.7	— 2.4	— 1.2
19	Teasing	3.24	.61	.07	3.00	1.00	.09	3.17	1.34	.19	— 2.0	— 0.3	+ 0.8
20	Motherliness	2.78	.81	.11	3.13	.96	.09	3.16	.84	.12	+ 2.5	+ 2.3	+ 0.2
21	Jealousy	2.22	.66	.08	3.05	.94	.09	3.07	.88	.13	+ 6.9	+ 5.6	+ 0.1

22	Self-defense	3.37	.69	.09	3.84	.70	.06	3.52	1.73	.25	+ 4.3	+ 0.6	+ 1.2
23	Irresponsibility for self	3.01	.88	.11	2.25	.80	.07	2.05	.64	.09	— 5.8	— 6.7	— 1.7
24	Criticism	2.68	.88	.11	3.22	.79	.07	3.45	.89	.13	+ 4.2	+ 4.6	+ 1.5
25	Selfishness	3.25	.67	.08	3.24	.63	.05	3.22	.79	.11	— 0.1	— 0.0	— 0.2
26	Sensitiveness	3.53	.37	.05	3.48	.88	.08	3.45	.95	.13	— 0.6	— 0.6	— 0.2
27	Irresponsibility for others	3.59	.41	.05	2.96	.80	.06	2.50	.81	.11	— 7.9	— 8.7	— 3.5
28	Social conformance	2.20	1.93	.24	3.42	.79	.07	3.44	1.18	.17	+ 4.9	+ 4.2	+ 0.1
29	Impoliteness	2.74	.56	.07	2.47	1.19	.11	2.85	1.08	.15	— 2.1	+ 0.7	+ 2.0
30	Ascendance	2.69	.58	.07	3.33	.79	.07	3.61	.93	.13	+ 6.3	+ 6.1	+ 1.9

TABLE 5

Correlations between Chronological Age and Thirty Social Behavior Traits and between Mental Age and Thirty Social Behavior Traits of Sixty-one Children

Trait Number	Trait Description	Number of Children							
		30				31			
		Chronological Age		Stanford-Binet Mental Age		Chronological Age		Kuhlmann Mental Age	
		r	P. E.	r	P. E.	r	P. E.	r	P. E.
1	Obedience	— .03	± .12	— .01	± .12	.01	± .12	.10	± .12
2	Approbation	— .09	± .12	.12	± .12	.27	± .11	.15	± .12
3	Interest in group	.01	± .12	— .35	± .11	.81	± .04	.56	± .08
4	Dependence	— .37	± .11	— .33	± .11	— .59	± .08	— .39	± .10
5	Affection	— .14	± .12	— .61	± .08	.02	± .12	.14	± .11
6	Coöperation	.39	± .10	.48	± .09	.57	± .08	.50	± .09
7	Respect for others' property rights	.02	± .12	.09	± .12	.15	± .12	.29	± .11
8	Participation	.19	± .12	.43	± .10	.26	± .11	.22	± .11
9	Lack of sympathy	.04	± .12	— .26	± .11	— .11	± .12	— .31	± .12
10	Lack of understanding of own property rights	— .62	± .07	— .18	± .12	— .42	± .10	— .34	± .11
11	Unsociability	— .32	± .11	— .38	± .10	— .55	± .08	— .48	± .09
12	Kindness	.02	± .12	— .23	± .12	— .16	± .12	— .32	± .12
13	Rivalry	— .03	± .12	.07	± .12	.55	± .08	.43	± .10
14	Appreciation of humor	— .10	± .12	.15	± .12	— .05	± .12	— .11	± .12
15	Disrespect for social ownership	— .00	± .12	— .17	± .12	— .07	± .12	— .17	± .12
16	Socially controlled behavior	.21	± .12	— .14	± .12	.55	± .09	.24	± .12
17	Followership	— .35	± .11	.06	± .12	— .22	± .11	— .14	± .12
18	Imitation	— .23	± .12	— .43	± .10	.15	± .12	.07	± .11
19	Teasing	.03	± .12	— .21	± .12	.00	± .12	— .08	± .11
20	Motherliness	.24	± .12	.49	± .11	.15	± .19	.25	± .11
21	Jealousy	.01	± .12	.05	± .11	.04	± .12	— .02	± .12

22	Self-defense	.04 ± .12	— .06 ± .12	.44 ± .10	.41 ± .10
23	Irresponsibility for self	— .42 ± .10	.26 ± .11	— .41 ± .10	— .31 ± .11
24	Criticism	.07 ± .12	.42 ± .10	.43 ± .10	.46 ± .09
25	Selfishness	.40 ± .10	— .04 ± .12	.33 ± .10	.25 ± .11
26	Sensitiveness	.23 ± .12	.39 ± .10	.07 ± .12	.12 ± .12
27	Irresponsibility for others	— .28 ± .11	— .81 ± .04	— .33 ± .11	— .46 ± .09
28	Social conformance	.21 ± .11	.35 ± .11	.31 ± .11	.21 ± .17
29	Impoliteness	.15 ± .12	.01 ± .12	.13 ± .12	— .02 ± .12
30	Ascendance	.19 ± .12	.25 ± .11	.49 ± .09	.31 ± .11

which had mental ages obtained by means of the Stanford revision of the Binet scale, and the other, mental ages abtained by means of the Kuhlmann revision of the Binet scale.

The group of thirty children having Stanford-Binet mental ages show a reliable positive correlation between chronological age and selfishness. The negative correlation of chronological age with the lack of understanding of own property rights is fairly high; and with irresponsibility for self, reliable. The positive correlations between mental age and participation, motherliness, and criticism are reliable. The correlation of mental age with coöperation is low and positive; and with imitation, reliable and negative. Rather high negative correlations are found between mental age and irresponsibility for others and affection. These results suggest that in the group of children having Stanford-Binet mental ages the older children are characterized by greater selfishness, understanding of own property rights, and responsibility for self than are the younger children. The more intelligent children are more participative, motherly, critical, coöperative, and responsible for others, and less imitative and affectionate than the less intelligent children.

In the Kuhlmann group, the positive correlations of chronological age with self-defense and criticism are reliable; with ascendance low; with coöperation, socially controlled behavior, and rivalry fairly high; and with interest high. The negative correlations of chronological age with lack of understanding of own property rights and irresponsibility for self are reliable; and with dependence on adults and unsociability, fairly high. Reliable positive correlations are found between mental age and rivalry and self-defense; low positive correlations between mental age and interest, coöperation and criticism; and low negative correlations between mental age and unsociability and irresponsibility for others.

These results would indicate that the older children of the Kuhlmann group tend to be more self-defensive, critical, socially controlled, ascendant, coöperative, rivalrous, interested in the group, understanding of own property rights, responsible for self, sociable, and independent of adults than do the younger children. More rivalry, self-defense, interest in the group, coöperation, criticism, sociability, and responsibility for others is found in the more intelligent than in the less intelligent. In both the Stanford-Binet group and the Kuhlmann group, the older children tend to be more understanding of their own property rights and to be more responsible for self than the younger, and the more intelligent tend to be more critical and more coöperative than the less intelligent.

The correlation between mental age and chronological age for the thirty children whose mental ages were determined by the Stanford-Binet scale is .71 ± .06, and in the group of thirty-one children having mental ages obtained by the Kuhlmann scale, .87 ± .03. Since the relation between mental age and chronological age is rather close, coefficients of partial correlations have been computed for chronological age and the social behavior ratings with mental age held constant, and for mental age and ratings, with chronological age ruled out.

Coefficients of partial correlation for mental age and for chronological age with the social behavior traits are shown in Table 6. When the influence of mental age is ruled out, in the Stanford-Binet group of children, chronological age shows a reliable positive correlation with socially controlled behavior; rather high positive correlations with affection, selfishness, and irresponsibility for others, while in the Kuhlmann group, chronological age gives a reliable positive correlation with rivalry; a low positive correlation with ascendance; and a rather high positive correlation with socially controlled behavior and interest in the group. Rather high negative correlations between chronological age and following and lack of understanding own property rights are found in the Stanford-Binet group, and between chronological age and dependence upon adults in the Kuhlmann group. These correlations indicate that an increase in those factors which are peculiarly chronological age factors, not factors common to both chronological and mental age, is found with growth in socially controlled behavior, affection, selfishness, irresponsibility for others, understanding of own property rights, and leadership, in the children of the Stanford-Binet group; and with growth in rivalry and independence of adults, in the children of the Kuhlmann group.

The partial correlations between mental age with chronological age held constant are given in Table 6. When the influence of chronological age is removed mental age in the Stanford-Binet group shows low, reliable positive correlations with participation, lack of understanding own property rights, following, motherliness, and criticism; low negative correlations with interest in the group, selfishness, lack of sympathy, and socially controlled behavior; and high negative correlations with irresponsibility for others and affection.

TABLE 6

Partial Correlations between Mental Age and Thirty Social Behavior Traits with Chronological Age Constant, and between Chronological Age and Thirty Social Behavior Traits with Mental Age Constant of Sixty-one Children

Trait Number	Trait Description	Number of Children			
		30	31	30	31
		Mental Age Constant		Chronological Age Constant	
		Chronological Age	Chronological Age	Stanford-Binet Mental Age	Kuhlmann Mental Age
		r P. E.	r P. E.	r P. E.	r P. E.
1	Obedience	.02 ± .12	— .04 ± .12	.18 ± .12	— .15 ± .12
2	Approbation	.28 ± .12	— .25 ± .11	— .18 ± .12	.29 ± .11
3	Interest in group	— .52 ± .09	.39 ± .10	— .50 ± .09	.79 ± .05
4	Dependence	— .10 ± .12	— .20 ± .12	.30 ± .11	— .54 ± .08
5	Affection	— .74 ± .06	.75 ± .05	.25 ± .11	— .21 ± .12
6	Coöperation	.31 ± .11	.08 ± .12	.02 ± .12	.30 ± .11
7	Respect for others' property rights	.11 ± .12	— .06 ± .12	.33 ± .11	— .22 ± .11
8	Participation	.43 ± .10	— .18 ± .12	— .02 ± .12	.15 ± .12
9	Lack of sympathy	— .41 ± .10	.33 ± .11	— .46 ± .09	.36 ± .10
10	Lack of understanding of own property rights	.49 ± .09	— .72 ± .06	.07 ± .12	— .28 ± .11
11	Unsociability	— .23 ± .17	— .07 ± .12	.06 ± .12	— .31 ± .11
12	Kindness	.30 ± .11	— .21 ± .12	— .38 ± .10	.26 ± .11
13	Rivalry	.13 ± .12	— .11 ± .12	— .13 ± .12	.40 ± .10
14	Appreciation of humor	.32 ± .11	— .31 ± .11	— .13 ± .12	.09 ± .12
15	Disrespect for social ownership	— .23 ± .12	.17 ± .12	— .24 ± .11	.18 ± .12
16	Socially controlled behavior	— .42 ± .10	.44 ± .10	— .57 ± .08	.70 ± .06
17	Followership	.48 ± .09	— .57 ± .08	.11 ± .12	— .20 ± .17
18	Imitation	— .38 ± .10	.12 ± .12	— .13 ± .12	.18 ± .17
19	Teasing	— .33 ± .11	.26 ± .11	— .17 ± .12	.16 ± .12
20	Motherliness	.46 ± .09	— .17 ± .12	.24 ± .11	— .14 ± .11

21	Jealousy	.06 ± .12	.03 ± .12	— .10 ± .11	.11 ± .12
22	Self-defense	— .14 ± .12	.13 ± .12	.06 ± .12	.19 ± .12
23	Irresponsibility for self	.06 ± .12	— .35 ± .11	.11 ± .12	— .30 ± .11
24	Criticism	.53 ± .09	— .36 ± .11	.19 ± .12	.07 ± .12
25	Selfishness	— .51 ± .09	.61 ± .08	— .08 ± .12	.24 ± .11
26	Sensitiveness	.34 ± .09	— .12 ± .12	.14 ± .11	— .09 ± .12
27	Irresponsibility for others	— .90 ± .02	.70 ± .06	— .37 ± .10	.16 ± .12
28	Social conformance	.29 ± .11	— .06 ± .12	— .12 ± .12	.26 ± .11
29	Impoliteness	— .14 ± .12	.19 ± .12	— .27 ± .11	.30 ± .11
30	Ascendance	.18 ± .12	.01 ± .12	.28 ± .11	.48 ± .09

In the Kuhlmann group, there are low negative correlations between mental age and interest, and lack of sympathy, and a fairly high negative correlation between mental age and socially controlled behavior. These correlations show that an increase in those factors which are peculiarly mental age factors, not factors common to both mental age and chronological age, is accompanied by an increase in participation, following, motherliness, criticism, sympathy, responsibility for others, unselfishness, lack of understanding of own property rights, lack of socially controlled behavior, lack of affection, and lack of interest, in the Stanford-Binet group; and in sympathy, and lack of interest, and of socially controlled behavior, in the Kuhlmann group.

Relation of Social Behavior Ratings to Sex

The relation of the means of the ratings to sex was determined in the same manner as the relation of the means of the ratings to age. Age differences were taken into account in the computations. Only two traits showed significant differences between means. The mean rating of the girls in the three age groups is 3.36 for motherliness; of the boys, 2.69. The ratio is 6.1. Girls, therefore, exceed boys significantly in motherliness. Three-year-old boys have a mean rating of 3.25 in irresponsibility for others; three-year-old girls have a mean rating of 2.73. The ratio of the probable error of the means to the difference between the means is 4.0. Differences which may be significant are found in teasing and social conformance. Boys of the three age groups with a mean of 3.35 in teasing exceed girls of the three age groups with a mean of 2.87. The ratio is 3.7. Girls of the two-year group having a mean of 2.95 show more social conformance than the two-year-old boys with a mean of 2.08. A ratio of 3.2 is found. All other traits show low ratios, varying from 0.0 to 2.9.

CHAPTER IV

MEASUREMENT OF SOCIAL BEHAVIOR PATTERNS IN YOUNG CHILDREN BY MEANS OF EXPERIMENTS

The observational records, upon which the rating scale was based, showed that frequently the patterns in each child's social behavior, after they had once appeared, reappeared many times. This lack of variation in social behavior over short periods of time suggested the possibility of determining the validity of the average ratings on the several social behavior patterns by means of experimental techniques. If experiments designed to measure patterns of social behavior were considered valid measures of those patterns, a high agreement of the results of each measure with average ratings on the same patterns would establish the validity of those ratings. On the basis of this premise, experimental techniques for measuring the social behavior traits of obedience, interest in the group, coöperation, and respect for the property rights of other persons were devised.

Experimental situations which appeared to the child as usual parts of his daily experience, a type used successfully by Marston (46) and Voelker (84), were chosen for this investigation. Situations, similar to those in which the traits of obedience, interest in the group, coöperation, and respect for the property rights of other persons arose, were set up. Fifty-nine children, enrolled in the preschool laboratory, Group I and the Preschool Home Laboratory, were placed in ten experimental situations, and their behavior was observed and recorded by the writer. Fifty-one children were given the experiments once; eight children, twice. Since the eight children gave different reactions in the experiments repeated after a year's interval, the results are treated as if the children were new cases. All the experiments were conducted in the experimental rooms of the two preschool groups. The order in which the ten experiments were given was as follows: the six obedience experiments, 1, 2, 3, 4, 5, and 6; coöperation-interest experiment, 7; property rights experiment, 9; coöperation-interest experiment, 8; and finally, property rights experiment, 10.

Through the use of situations very different from those of the psychological experiments to which the children were accustomed, an attempt was made to prevent the obedient and coöperative attitude of children, so habitual in many experimental situations, from carrying over into the experiments of the present investigation. The situations of the social behavior experiments require no tables and chairs for the child, while tables and chairs were usually part of the situations of the psychological experiments. The toys used in the social behavior experiments were the ordinary ones of the preschool environment, rather than materials with which the child was less familiar. A greater opportunity for the interaction of the child with another person or with other persons was given in the social behavior experiments than in the psychological experiments. The experiments for measuring interest in the group, coöperation, and respect for the property rights of other persons were especially noted for this difference. In the obedience experiments, since the relation between the experimenter and the child was somewhat similar to that in the psychological experiments, the tasks set for the child were made as unlike the psychological tasks as was compatible with the use of situations adapted from preschool life. It was shown by the remarks of some children that some difference between the social and psychological experiments was apparent to them. For example, one child in the first experiment of the series, a test of obedience, said to the writer, ''I thought there was a lady who wanted me to play. Who was the lady?'' The children in the preschool groups were accustomed to going with different persons to the experimental rooms where they played ''games.'' In accord with the policy of experimentation in the preschool laboratories no rewards were offered for participation in the experiments.

Only four children were insistent in their objections to going to play games with the experimenter. After these children had been encouraged to go, and had gone, they were especially happy to go again. Many children asked to be taken to play the ''games.'' Most of the children were well acquainted with the experimenter.

The records of the experiments were made on letter-size white paper. For each experiment the experimenter recorded at the top of the page the name of the child, the date, the names of the other children in the situation (except in the obedience experiments), and below, a narrative account of the behavior of the child and as much as possible of the behavior of the other persons in the situation that seemed to be directed toward, or reacted to, by the child. The procedure of the experiments and the method of scoring are described below.

EXPERIMENTS FOR MEASURING OBEDIENCE

Six situations were arranged for studying and measuring the degree of obedience each child showed in his reactions to commands given by the writer. Five situations were arranged as a continuous series for examining obedience in the presence of the writer, and one situation was devised in which the writer gave her command, and then left the child alone in the experimental room.

Procedure for the Series Consisting of Experiments 1, 2, 3, 4, and 5

The procedure for the series of five experiments is as follows:

Experiment 1.——The experimenter brought the child into the examining room, sat down on one of the two small chairs in the room, looked directly at the child and said: ''Lie down on the floor.'' She then busied herself recording the child's behavior. The command was repeated at fifteen second intervals until the child lay down or until ten commands had been given. The maximum length of time for this situation was two and one half minutes.

Experiment 2.——As soon as the child had obeyed in Experiment 1, or, if he did not obey at the end of Experiment 1, the experimenter removed from a hidden shelf a small wooden box (Montessori gift, number six), took a red and gold toy top from it, then placed the top on a small chair at a distance of three feet from the experimenter. She gave the command to the child: ''Bring the top to me.'' The command was repeated at thirty second intervals until the child obeyed, or until ten commands had been given.

Experiment 3.——As soon as Experiment 2 was completed, the experimenter placed the wooden box on her lap so that it was easily seen by the child and said to the child, ''Put the top in my box.'' The command was repeated at thirty second intervals until the child obeyed, or until ten commands had been given.

Experiment 4.——The experimenter took two small blocks (the 2 in. by 1 in. by ¼ in. blocks of the Montessori gift, number six) from the box on her lap, closed the box and turned it upside down. Drawing the child close to her, she gave him one of the blocks and said: ''This is your block. Put your block here.'' As she said ''here,'' she touched the right corner of the top of the box on the edge nearest her with the block she held in her hand. If the child obeyed, she repeated the command and touched the left corner near her. If the child obeyed, the left corner on the side of the box near the child was indicated in the command; then the right corner near the child; and finally, the center. This procedure was repeated immediately.

If the child did not place his block at the place indicated, at any time during the experiment, the experimenter repeated the command, ''Put your block here,'' and pointed to the place at fifteen second intervals until he did obey, or until a total of ten commands, including any given before the child had disobeyed, had been given.

Experiment 5.——When Experiment 4 was finished, the experimenter set the box right side up on her lap and said to the child: ''Put your block in my box.'' If the child did not obey, the command was repeated at thirty second intervals until the child obeyed, or until ten commands had been given.

Procedure for Experiment 6

This experiment was used to measure the obedience and disobedience of each child when the experimenter was not present in the experimental room. A large plasterboard screen of four hinged sections was built to form the end or the side wall of the experimental rooms. Four rows of holes were cut into the screen at the height of the experimenter's eyes. The behavior of the children could be observed and recorded from behind the screen without the observer's presence being noted by the children. The procedure for the single experiment for measuring obedience is as follows

Experiment 6.——Before the child was brought into the examination room the experimenter built on the floor two bridges with twenty-one blocks (5 in. by 2 in. by 1 in. blocks). A small market basket was placed near the bridges; next to the basket, a doll and blanket, and a toy street car. The experimenter brought the child into the room, knocked over the bridges and gave the command: ''Pick up all the blocks and put them in the basket,'' touching the blocks at the word ''blocks,'' and the basket at the word ''basket.'' She then left the room, closed the door behind her, and observed the child through the holes in the screen for three minutes

Discussion of the Experiments for Measuring Obedience

The situation of Experiment 1 was chosen as the initial one in the series of social behavior experiments because it was decidedly unlike those situations in which the children were frequently placed. Experiments 2 and 3 were placed in the series in order to provide commands which would be obeyed with very little hesitation. It was hoped that each child would obey in some of the situations so that the formation of an attitude of dislike for the experiments would be prevented. The situation of Experiment 4 was based on the belief that the children would lose interest in following ten commands to place a block at specific positions on the top of a box. Experiment 5, with its easily obeyed command, ended the series of five experiments and seemed to leave the child with a feeling of success. The experimenter commended the child by saying: ''That was a nice game. You may come again and play.''

Experiment 6 was used to measure obedience when the experimenter was absent because of its similarity to the situations in which the disobedience pattern of behavior was seen so frequently in the preschool groups—that of picking up blocks. To prevent the child from obeying merely because he had nothing else to do, toys, other than the blocks and the basket, were placed in the situation.

Types of Obedience Reactions

The records of the experiments were analyzed and classified on the basis of the degree with which obedience and disobedience appeared in the behavior patterns. Numerical values were assigned to the different amounts of obedience and disobedience on the basis of the answers to the question: ''How much submission or lack of submission to authority is shown in the child's behavior?'' To the behavior patterns showing that the child refused to carry out the commands and attempted in no way to appease the experimenter, a score of 1 was assigned; to those showing that the child carried out the commands only after six or more had been given, or carried out three commands or less, or, disobeying altogether, gave recognition to the experimenter by trying to attract the experimenter's attention to other things, the score of 2; to those showing that the child carried out the command after about half of them had been given, or obeyed about half of the commands, a score of 3; to those showing that the child carried out the commands after hesitating on one or two, or obeyed all but one or two commands, a score of 4; and to those showing that the child immediately and completely carried out the experimenter's commands, a score of 5. Experiments 1 and 4 brought reactions showing five degrees of obedience. Experiments 2, 3, and 5 very rarely characterized the children as disobedient. Decided obedience, decided disobedience, and a blend of obedience and disobedience was found in the reactions to Experiment 6.

The following are the reaction types resulting from Experiment 1. (Numbers 1, 2, 3, etc., indicate the points at which the experimenter gave the command, ''Lie down on the floor.'' The letter E is used in designating the experimenter.)

Reaction Type 1.——The children decidedly refused to obey all commands. They disregarded the experimenter except for saying ''No,'' ''I don't want to,'' etc. Some of the children sought to escape from the room, or cried. Obedience score, 1.

M356 (chronological age, 35 months; Kuhlmann mental age, 36 months). M356 looks at E's writing and at her stop-watch. Is very close to E watching her. (1) Looks at E. (2) ''I don't want to.'' Looks at E, at writing, and at E. (3) Looks at E and smiles. Looks at E. Looks around. (4) ''I don't want to.'' Looks at E, at books on high shelf, at wall, at E, and outdoors. Goes to window and looks out. (5) Looks at E. ''I don't want to.'' Turns to window and looks out, with back to E. (6) Laughs. ''Hub - hub.'' Looks out window with back to E. (7) ''No,'' with back to E. Looks out window. (8) Back to E. Rubs eyes. Glances at E and turns back. Rubs eyes. (9) Cries. E then ends the experiment.

Reaction Type 2.——The children disobeyed noticeably. Although they did not obey at any time, or until six or more commands were given, they recognized the experimenter as having some authority as they explained their disobedience or attempted to distract her attention in various ways. Obedience score, 2.

F316 (chronological age, 44 months; Stanford-Binet mental age, 45 months). (1) ''Look. I don't want to.'' Watches E write. Looks at E. ''I know what's my name. I can spell J's (her sister's) name.'' (2) ''I know 'k-n-o.'' That's the way I spell my name.'' Smiles. (3) ''I like to do something too. Why is that there? (the screen). Why don't you have something on it?'' (4) Laughs a little. ''I can climb up anywhere. I can climb up the trees. I'll show you. I can get up on the table.'' (There is no table in the room.) (5) ''I can, on tip-toes.'' Smiles. ''I know how to spell. 'T-n-o.' That's the way I spell my mother's name. 'G-t-n-o.'' (6) ''I can do that up there. I can crawl out the window. Why have the glass in there?'' (Isinglass covering holes in the screen.) ''Why do you have the holes? Why do you have the holes?'' Crawls on chair and points. ''Why isn't there any table in here?'' (7) ''Who fixed this (the screen) for us?'' ''I'll lie on our floor. I always do at home, that's what. Say, why?'' (8) ''Say why have those crayons?''

as she looks at crayons on high shelf. ''Who put them there?'' (9) ''Why have this paste? Say, why have paste here?'' (10) ''Say, why making these points?'' (letters E is writing). ''I can write these. Let me see this. I have a little wrist watch.''

Reaction Type 3.——The children were both obedient and disobedient. Three, four, or five commands had to be given before they would obey. Obedience score, 3.

M370 (chronological age, 37 months; Kuhlmann mental age, 42 months). (1) ''Why?'' Stands and looks at E. ''Why do you do that? Why do you do that for?'' Leans back against the wall. (2) ''Why do you do that for?'' ''Some others going to do it?'' (3) ''Why?'' Does lie down in seven seconds.

Reaction Type 4.——The children were noticeably obedient, although they did not obey immediately. Some children asked questions about lying down. By a few, a second command was required. Obedience score, 4.

F191 (chronological age, 47 months; Kuhlmann mental age, 59 months). (1) ''Why? What do you do it for? Do other girls do it?'' Obeys in fifteen seconds.

Reaction Type 5.——The children were decidedly obedient. They lay down as quickly as they could. Obedience score, 5. It is of interest to note that the child whose reaction is here recorded was given the rating of ''decidedly obedient'' by each of his three raters.

M265 (chronological age, 48 months; Stanford-Binet mental age, 68 months). (1) Obeys in five seconds. E said, ''All right.'' M265, ''Can I get up?'' Then, as E put top on the chair: ''I believe I can spin this.''

The following types of obedience patterns were found in the children's responses in Experiment 4. (Numbers 1, 2, 3, etc., indicate the points at which the experimenter gave the command, ''This is your block. Put your block here.'')

Reaction Type 1.——The children were decidedly disobedient. They obeyed none of the ten commands. A few children sought to escape, or cried. Obedience score, 1.

F391 (chronological age, 30 months; Kuhlmann mental age, 32 months). (1) Looks pouty, as if she would cry. (2) Looks as if she would cry; looks outdoors. Glances at E once. (3) Starts to cry. E ends the experiment.

Reaction Type 2.——The children were noticeably disobedient. They obeyed only one, two, or three commands. Obedience score, 2.

M356 (chronological age, 35 months; Kuhlmann mental age, 36 months). (1)

Puts block in right place. (2) Doesn't obey. ''Huh?'' Obeys. ''Huh?'' (3) Laughs. (4) Laughs. (5) Laughs. (6) Laughs. (7) Laughs. (8) Laughs. (9) Laughs. (10) Laughs.

Reaction Type 3.——The children were equally obedient and disobedient. They obeyed nearly as much as they disobeyed. Obedience score, 3.

M204 (chronological age, 25 months; no mental age available). (1) Obeys. (2) Disobeys. (3) Disobeys. (4) Obeys. (5) Obeys. (6) Disobeys. Throws box lid on floor. (7) Disobeys. (8) Disobeys. Takes E's block. ''My.'' (9) Obeys. (10) Obeys.

Reaction Type 4.——The children obeyed noticeably. They disobeyed only one or two times. Obedience score, 4.

M254 (chronological age, 43 months; Stanford-Binet mental age, 53 months). (1) ''Huhhuh!'' Obeys. (2) Puts it in wrong place. (3) Obeys. (4) Obeys. (5) Obeys. (6) Obeys. (7) Obeys. (8) Obeys. (9) Disobeys. (10) ''I put it there.'' Obeys.

Reaction Type 5.——The children obeyed every command exactly. Obedience score, 5.

F383 (chronological age, 40 months; Kuhlmann mental age, 42 months). Does all ten correctly. After the fourth command, she picks up her block so it is not necessary for E to give it to her before each command. (Figure 1).

The children in Experiment 6 were observed through a screen for a period of three minutes by the experimenter. The three reaction types found in Experiment 6 are as follows:

Reaction Type 1.——The children were decidedly disobedient. They did not pick up the blocks.

M193 (chronological age, 31 months; Stanford-Binet mental age, 53 months). Starts making a track of the blocks for the street car. Runs car on track. Whispers to self as builds (1 minute). Builds, and changes blocks. Builds more. (2 minutes.) Builds. Tears down and builds again. Puts car under blocks. (3 minutes.)

Reaction Type 2.——The children were both obedient and disobedient. They picked up some of the blocks, but also played with the other toys part of the time.

F348 (chronological age, 33 months; no mental age available). ''Oh, here's a little doll. Oh!'' Laughs. ''Little doll.'' Takes it. Puts doll blanket down as E gives command. Holds doll in right arm. Looks at doll. (30 seconds.) Puts doll down near her and uses both hands to put blocks in basket. Touches doll. (1 minute.) Touches street car. Glances at screen.

Continues to put blocks in basket, carefully, with both hands. Looks around at window. At 1 minute, 45 seconds, a block falls off. F348 stops and looks in shelves (2 minutes.) Starts to rearrange the blocks. (2 minutes, 30 seconds.) Goes and picks up doll and blanket. Whispers as wraps doll in blanket. (3 minutes.) E said as she went into the experimental room, ''Why didn't you put all the blocks away?'' F348 said: ''I was going to wrap up the dolly first,'' and then, ''I can't put does (those) in these, I can't put does in these.'' E said: ''All right.'' F348 wrapped the doll in the blanket, put all the blocks in the basket, pushed the basket back, and ran the street car on the floor. She didn't want to leave the room. She said: ''I want to play with this doll.''

Reaction Type 3.——The children were decidedly obedient. They put the blocks in the basket immediately.

F213 (chronological age, 35 months; Stanford-Binet mental age, 36 months). Looks at other toys, but goes right to picking up blocks. Picks up all the blocks in 45 seconds. Picks up toy car.

Since Experiments 2, 3, and 5 generally brought only obedient responses, their reaction types are not included here.

EXPERIMENTS FOR MEASURING CO-OPERATION AND INTEREST

The purpose of Experiments 7 and 8 was to measure the amount of interest in the group manifested by the child and the amount of coöperation with other children, in a free play situation. Excepting the presence of the experimenter in Experiment 7, the two experiments were alike. Ordinary toys were used in the experiments to prevent any unusual interest in toys as opposed to children.

Procedure for Experiments 7 and 8

The procedure for the two experiments devised for measuring coöperation and interest was as follows:

Experiment 7.——The experimenter arranged three boxes of small wooden blocks (Montessori gift, number six), three toy roosters, three dolls, and one doll blanket on the floor at one end of the examination room, and at the opposite end of the room (six feet away), one box of blocks, one toy rooster, one doll, and one doll blanket. After bringing two children into the room, and placing them near the larger group of toys, she said, ''I am going to bring—(name) in here. Don't bother him. Let him play where he wants to.'' The experimenter then brought in the child who was the subject of the experiment, allowing him to stand or sit wherever he chose, and sat down on a small chair near the door to record the behavior of the child for five minutes. A stop-watch was used in keeping a record of the duration of the child's various activities.

Experiment 8.——The room arrangements for Experiment 8 were the same as those in Experiment 7. The experimenter brought two children into the room and placed them near the larger group of toys. She said: ''I am going to send —— (name) in here. Don't bother him. Let him play where he wants to.'' The experimenter then sent the child who was the subject of the experiment into the room, closed the door, observed the behavior of the child through the screen for five minutes and recorded her observations, which included a time record of the child's activities.

It was planned that each child should serve twice as a part of the experimental situations in each of the coöperation-interest and property rights experiments after he had served as subject. A few children were not obedient to the instructions of the experimenter, and disturbed to some extent the normal experimental situation. These children were not asked to serve their second turns as parts of the experiments; other more coöperative children were asked to ''play.'' In general, the social situations of the experiments were to a fairly high degree comparable for the fifty-nine children.

Each child's reaction in the two experiments for measuring coöperation and interest were analyzed in order to discover first, the amount of interest in other children manifested by the child, and, secondly, the amount of coöperation.

Types of Interest Reactions

The classification of interest behavior and assignment of numerical values to the different amounts of interest was based on the answer to the question: ''How much does the child have his attention engaged by the group?'' If the child watched the other children and the experimenter very little of the time, his reaction was given the score of 1; if he attended away from the group somewhat more than he attended to the group, the score of 2; if he watched the group as much as he attended away from the group, the score of 3; if he watched somewhat more than he attended away from the group, the score of 4; and if he watched the other children and the experimenter most of the time, the score of 5.

Reaction Type 1.——The children were decidedly not interested in the group. They sat down and attended very little to the other children. Interest score, 1.

F240 (chronological age, 37 months; no mental age available). Experiment 8. Goes slowly to children and watches them for 10 seconds. Goes to toys alone. Watches children, 10 seconds. Sits with toys alone and plays with blocks, 22 seconds. Watches children, 1 second. Plays with blocks. (1 minute.) Plays with blocks. Watches children, 3 seconds. Plays with blocks. Watches children, 1 second. (2 minutes.) Plays with blocks, 50 seconds. Watches children, 3 seconds. Plays with blocks. (3 minutes.) Plays with blocks. Plays with blocks making a long train. Watches children, 1 second. Plays with blocks. Watches children, 5 seconds. (4 minutes.) Plays with blocks. Watches children, 1 second. Plays with blocks. (5 minutes.)

Reaction Type 2.——The children were noticeably uninterested. Although the children attended somewhat to the others, they were more often interested in the toys. Interest score, 2.

F332 (chronological age, 35 months; no mental age available). Experiment 7. Watches children, 10 seconds. Goes and sits alone. Picks up doll. Sits by toys alone. Watches children, 1 second. Plays with back to children. Plays with doll. Watches children, 5 seconds. (1 minute) Watches children. Says something. Rubs mosquito bite. Watches children, 10 seconds. Gets doll. Watches children, 2 seconds. Plays with doll blanket. Plays with doll and blanket. (2 minutes.) With back toward children, 3 seconds. Back toward children, and plays with dolls. Says something, 2 seconds. (3 minutes.) Plays with doll and blanket. Plays with doll. Continues. Looks at M249 when he talks, 7 seconds. Looks at E, 3 seconds. Watches as M249 talks, 5 seconds. Plays. Watches M249 as he talks, 5 seconds. Watches M249 as he talks, 10 seconds. (4 minutes.) Watches children, 10 seconds. Watches E, 1 second. Looks out window. Watches E, 1 second. Plays. Puts blanket on wall. Watches children, 2 seconds. Continues to play by wall. (5 minutes.)

Reaction Type 3.——The children were equally interested and uninterested. They attended equally to the children and to the toys. Interest score, 3.

F342 (chronological age, 35 months; no mental age available). Experiment 7. Looks at children, 5 seconds. Pulls at curtain on shelves, and turns handle of pencil sharpener. Watches E, 1 second. Starts to walk out of room to get a chair. Watches E, 2 seconds. Plays at pencil sharpener, 10 seconds. Sits near children. (1 minute.) Sits and plays with children, 40 seconds. ''You want diss?'' Throws toy rooster to M347 and accepts it when he returns it, 20 seconds. (2 minutes.) Watches children, 12 seconds. Plays with toy rooster. Gives rooster to children, 10 seconds. Plays with curtain, 20 seconds. Watches E, 1 second. (3 minutes.) Watches out window and takes a leaf from flower box. Gives flower to M347, 10 seconds. Watches out window. Goes behind M347 and gets doll. Watches children, 10 seconds. Has two dolls. Sits near the children. ''Hold the dolly,'' 10 seconds. Sits and plays with F327, 10 seconds, putting doll in boxes. Talks and plays with doll. (4 minutes.) Plays with doll, 5 seconds. Watches children, 5 seconds. ''Look here. Look here. Stand up, lie down'' (the dolls). ''Up again, lie down. Look here.'' Shows the doll to the children again.

Reaction Type 4.——The children were noticeably interested in the group. They attended somewhat more to the group than to the toys. Interest score, 4. (Figure 2)

M279 (chronological age, 43 months; Kuhlmann mental age, 38 months). Experiment 7. ''There's some more chickens.'' Looks at children and sits near them. Gets doll. Talks. Watches children, 20 seconds. Laughs as doll falls over. Talks to doll and looks up at E. ''Chicken, chicken, chicken,'' as puts doll and chicken near each other. Watches children, 9 seconds. Watches children and looks at E as children talk. Smiles. Listens, 10 seconds. Builds blocks in box. Watches children, 3 seconds. Looks inside of box and builds in box. Watches children, 10 seconds. Goes nearer children. Gets blocks from children. They tell him he has some. Builds. Looks at children, 10 seconds. Get blocks of them. ''Yeh, I can'' (makes a bridge). Watches children, 7 seconds. Turns back toward children. Watches children, 4 seconds. Laughs and says, ''Oh, you can't do it up to the light'' (build). Watches children, 10 seconds. Turns back toward children. (3 minutes.) Watches children, 5 seconds. Builds near children, facing them. ''Chickie pen.'' Is near M265. Whispers to M265. Pushes blocks over when M265 tells him to kick them over. Watches children, 7 seconds. (4 minutes.) Says ''Yes'' to M265. Watches children, 20 seconds. Builds. Watches children, 2 seconds. Watches children 8 seconds, and builds. (5 minutes.)

Reaction Type 5.——The children were decidedly interested in the group. Their interest in the toys seemed insignificant in comparison with their watching of the children. Interest score, 5.

M329 (chronological age, 38 months; no mental age available). Experiment 7. ''Oh!'' as he looks around, 5 seconds. Sits alone. ''Nice chick.'' Watches children as holds toy rooster, 20 seconds. Plays alone, 15 seconds. ''Why do you have two dollies?'' Watches children, 15 seconds. (1 minute.) Watches children, 25 seconds. Looks at E, 1 second. Plays with chicken. Watches children, 30 seconds. (2 minutes.) Watches children, 20 seconds. Looks at E, 1 second, and smiles. Repeats. Touches doll's head. Watches children, 14 seconds. Looks at E, 1 second. Watches children, 15 seconds. (3 minutes.) Looks at children, smiling, and looks at E and talks, 5 seconds. Watches children, 25 seconds. Talks, 2 seconds. Watches children and smiles, 28 seconds. (4 minutes.) Looks at E, 1 second. Watches children and holds chicken in hand, 34 seconds. Watches E, 2 seconds. ''Some little boy is breaking the dolly.'' Watches E, 1 second. Watches children as F240 hides doll, 22 seconds. (5 minutes.)

Types of Coöperation Reactions

Numerical values were assigned to the various amounts of coöperation found in the coöperation-interest experiments on the

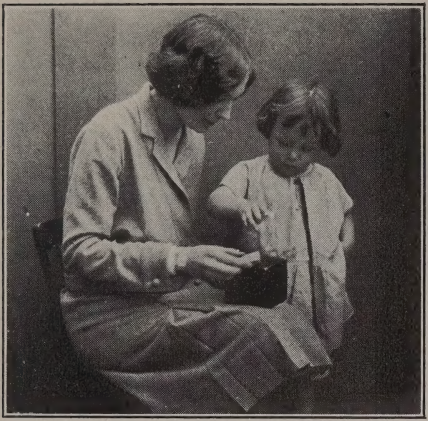
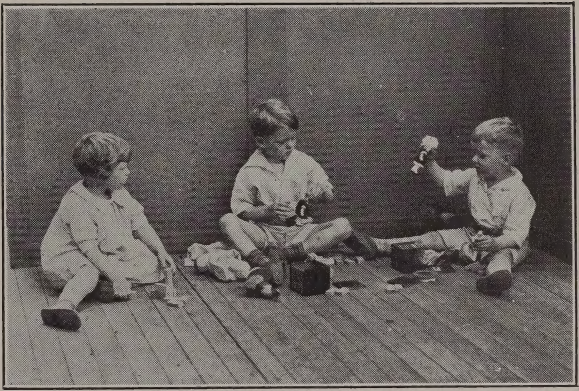


Fig. 1. The girl obeys the experimenter's command, "Put your block here."

Fig. 2. The girl is interested in the other children.



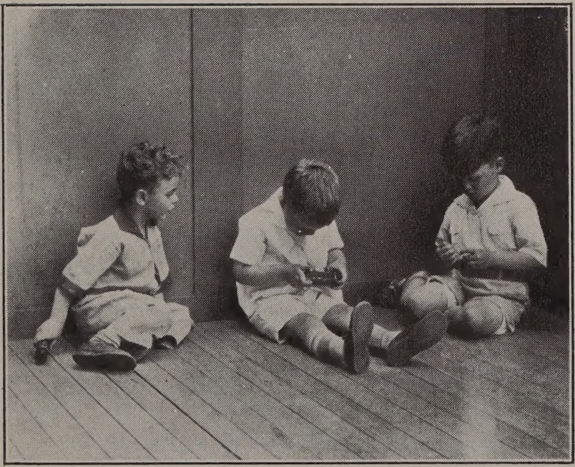


Fig. 3. The boy in the corner does not have a toy but he does not take the toys of the other children.

basis of the answers to the question: ''How much does the child play with the other children?'' The reaction of the child who played alone was given the score 1; of the child who played somewhat more alone than with the others, the score 2; of the child who played alone as much as with the others, the score 3; of the child who played somewhat more with the others than alone, the score 4; and of the child who played with the other children almost all of the time, the score 5.

Reaction Type 1.——Experiment 7. The children decidedly lacked coöperation. The children sat alone and played with the toys. They did not play with the other children. Coöperation score, 1.

M193 (chronological age, 43 months; Stanford-Binet mental age, 53 months). Looks at toys and children, 7 seconds. Sits near toys, alone, and plays with toy rooster. (1 minute.) M177 gets M193's rooster. ''No.'' M193 holds on to rooster and plays with it. Plays, piling up blocks and puts rooster on them. (2 minutes.) M193: ''That's a chicken, Miss 'An Keve,'' (E). Plays with blocks. Looks at M177. Looks at rooster. (3 minutes.) M193 puts rooster on blocks. ''Rooster.'' F218 talks to M193. ''Huh? Huh?'' (4 minutes.) ''No'' as M177 tries to take his rooster. Plays. (5 minutes.)

Reaction Type 2.——The children noticeably lacked coöperation. They played alone somewhat more than they played with the other children. Coöperation score, 2.

F327 (chronological age, 37 months; Kuhlmann mental age, 39 months). Experiment 8. Looks. Gets doll alone and sits near children. Watches children; shakes head in negation, 10 seconds. Watches children as plays with doll and tries to take doll's dress off, 15 seconds. Watches children, plays with and hugs doll, 30 seconds. (1 minute). Looks at children a little, but builds. Glances at children and builds. Builds at a little distance from children. Glances as they rattle blocks. (2 minutes.) Wraps doll and glances at children. Watches children and holds doll, 30 seconds. (3 minutes.) Whispers to doll as holds it. Glances at children. Looks around. Glances at children. Looks around. Says ''Ps-s-s-t.'' The children imitate her. She continues and they continue to imitate. Talks and says ''Ps-s-s-t'' again. Talks and glances at children. (4 minutes.) Glances at children as holds doll. Plays with other doll. ''Look at the doll stand up. Look at the doll.'' Gets other doll. Lets F375 take the doll. Watches children, 30 seconds. (5 minutes.)

Reaction Type 3.——The children were equally coöperative and uncoöperative. They played with the other children and the toys almost equally. Coöperation score, 3.

M356 (chronological age, 35 months; Kuhlmann mental age, 36 months). Experiment 7. Sits fairly near children and watches them, 15 seconds.

F348 tells him to get the toy rooster over at the other end of the room. M356 sits and looks at the wall. Starts in imitating F348 and M370. Holds up the rooster. Says: ''This is a great big rooster.'' The three children put the roosters on their heads. They drop them. M356 plays with rooster, 15 seconds. Watches children as they build, 15 seconds. (1 minute.) Says ''F348.'' Talks to the children. Yells. Looks at doll, alone, but gets one near the children. Gets doll, alone. Watches children, 15 seconds. (2 minutes.) ''Two dollies,'' as holds two dolls which are alike. Sits at E's feet, further from children. Imitates children and plays with doll. Moves nearer children and plays with dolls. Plays with chicken. ''Rooster is seeing him'' (the doll). (3 minutes.) ''Rooster. Need some rooster. There's one.'' (Imitating F348) Sits near M370. Watches F348 as she helps him put blocks in box. Goes alone and puts blocks in box as F348 has been doing. (4 minutes.) Continues, and puts lid on top of box, several times. Glances at children, 2 seconds. (5 minutes.)

Reaction Type 4.——The children coöperated with the other children noticeably. They played somewhat more with the children than alone. Coöperation score, 4.

F383 (chronological age, 40 months; Kuhlmann mental age, 42 months). Experiment 7. Looks at children as stands near them, 17 seconds. Watches M193, 1 second. Sits near toys, alone but turns and watches children as plays with rooster, 12 seconds. Watches children, 15 seconds. Starts to build, with back toward children, 15 seconds. (1 minute.) Looks at E. ''Oh, it fell down.'' to E. F375 answers her, ''I'll say it did.'' F383 talks. Moves near children. Gets blocks nearer F375. Watches children and talks to children, 30 seconds. (2 minutes.) Nearer F375. Takes F375's doll and gives it back, 15 seconds. Talks. Takes children's blocks. Moves nearer children and builds. Gets more of the children's blocks. Watches children, 3 seconds. ''Now we can play together, can't we?'' Tells F375 to take doll off the bridge. She lets F375 walk doll on her train. ''That's a bridge.'' Watches children a little. (3 minutes.) ''I'm not done with it.'' Offers to take doll dress off doll. Laughs and talks and watches children, 30 seconds. Tries to take doll dress off for F375. ''I did get it off, didn't I?'' (4 minutes.) ''Oh, gee whiz, boy.'' Repeats. Throws doll away, laughs and talks. ''Shall I take the doll dress off? I can.'' ''No! No!'' to F375. (5 minutes.)

Reaction Type 5.——The children were decidedly coöperative. They played with the other children almost all of the time. Coöperation score, 5.

F278 (chronological age, 39 months; Kuhlmann mental age, 56 months). Experiment 7. ''Oh, dollies. I'd like to have that doll. It's broke. How did it get broke?'' Goes to other children. ''Could I have that? Here, I have a chicken, too. Does yours have feet? See it stands up.'' Stands toy rooster near children. ''This is mine, and I have one.'' ''This is my baby doll.'' Goes nearer children. ''This is a baby doll, and she is wrapped up. (1 minute.) ''Let's see,'' to the other children. ''You can have that, too.'' Talks all the time. ''I'll fix this dolly in the blanket.'' Continues to talk to children. ''My dolly's all ready.'' (2 minutes.) ''You go and play with yours.'' Gives M299 his chicken. Takes her doll to M299. ''Where's his eyes? Where's his eyes, Miss E?'' Watches M299 with chicken a short while. ''Look at the big doll. She's all ready to go to bed.'' (3 minutes.) ''You can have this box. Does it (box lid) go on this one?'' Talks. Turns to own blocks. Gathers all blocks up very fast. Glances at E. ''Now, I'll put the lid on.'' Tries to put the lid on. Turns when M327 asks her a question. ''What?'' Goes and plays with the children's blocks. Gets their blocks. Reaches for M299's box lid. (4 minutes.) Gets it on a second attempt. ''You can play with the blocks.'' Pours out all the children's blocks and tells them that they can play with them. Watches dolls and children awhile. (5 minutes.)

EXPERIMENTS FOR MEASURING RESPECT FOR THE PROPERTY RIGHTS OF OTHER PERSONS

Experiments 9 and 10 were devised for the purpose of measuring the respect of the children for the property rights of other persons in situations which gave opportunities for taking the toys of others. It was thought that the children, after having been subjects in eight experiments in which the experimenter had given them toys, might expect her to provide them with toys in the property rights experiments. For this reason, Experiment 9 was arranged so that the experimenter's suggestions should overbalance such an expectancy on the part of the child. It was thought that her absence in Experiment 10 should produce the same effect.

Procedure for Experiment 9 and 10

The two experiments for measuring the respect of children for the property rights of other persons involved different procedures.

Procedure for Experiment 9.——The experimenter brought two children into the experimental room, seated them on the floor, gave each a toy street car, and said, ''You play with these cars. Keep them in your hands. I am going to bring—— (name) in here. Don't bother him.'' E then brought the subject into the the room, sat down on a small chair, and recorded the child's behavior for three minutes. If at the end of one minute, the child being studied had not taken a car from one of the other children, the experimenter said, casually, ''—— (name), you may play, too.'' If at the end of another minute, the child had not yet taken a car, she asked him: ''Why don't you play?'' If at the end of the third minute, the child had not taken a street car, she sent the other children from the room and said ''Would you like to play with one of these cars?'' If the child answered in the affirmative, he was allowed to play with the car for a minute or two.

Procedure for Experiment 10.——The experimenter brought two children into the experimental room, seated them on the floor, gave each a toy street car, and said, ''You play with these cars. Keep them in your hands. I am going to send —— (name) in here. Don't bother him.'' E then sent the subject into the room, closed the door, and through the screen observed the child's behavior for three minutes.

Discussion of the Experiments for Measuring Respect for the Property Rights of Other Persons

Of the six experiments used in the present investigation, the experimenter felt that the experiments for measuring respect for the property rights of other persons did not measure the behavior patterns they were designed to measure as well as the other experiments. It appeared, as the experimentation proceeded, that perhaps some of the children did not want to play with a street car in the experimental situation, and consequently did not attempt to take a car, who might in the play room situation take a toy they desired from another child. Although only one child refused to play with the street car when the experimenter offered it, it was not possible to tell how many children took it merely to oblige the experimenter.

However, it is possible that, in part, the ''respect for other persons property rights'' in the play room is based on the lack of a desire for the various toys which other children have in their possession.

Types of Respect for the Property Rights of Other Persons Reactions

The reactions of the children in each of the experiments were classified and numerical values were assigned on the basis of the amount of respect and disrespect for others' property rights found in the children's behavior. In answering the question: ''How much does the child respect others' property rights?'', five reaction types were found. The reactions of the child who almost immediately took or tried to take another's car was given the score 1; of the child who took the car although not immediately, and kept it, the score 2; of the child who took but gave up another's car, or teasingly grabbed for a car, the score 3; of the child who touched another's car, or reached for it when it seemed that the car might be abandoned, the score 4; and of the child who did not at any time take or attempt to take another child's car, the score 5.

The five reaction types found in Experiment 9 are the following:

Reaction Type 1.——The children decidedly disrespected the property rights of one or more of the other children. They took or attempted to take a street car from one of the other children almost at once. Respect for the property rights of other persons score, 1.

M356 (chronological age, 35 months; Kuhlmann mental age, 36 months). ''Let me have it. Let me have it. Let me have it.'' Grabs at and takes F391's car, at 15 seconds. Talks about street car. (1 minute.) Wants F348 to put his car down. M368 says somebody broke the street car. Runs car around on the floor. (2 minutes.) Runs car under shelf with F348. Runs car on floor. (3 minutes.)

Reaction Type 2.——The children noticeably disrespected property rights of others. They did not immediately take one of the street cars. Respect for the property rights of other persons score, 2.

F375 (chronological age, 42 months; Kuhlmann mental age, 48 months). Sits near children, 25 seconds. Continues. ''I want to play too,'' to M370. (1 minute.) (E says: ''You may play, too.'') ''He won't give it to me, though.'' Sits near and watches children. Asks to see M329's car. M329 does not let her have it. Talks (2 minutes.) (E asks: ''Why don't you play?'') Looks at E. Takes M329's car to M370, ''No, she said I wanted to play with it.'' Plays and runs it behind screen. M370 tries to get it. F375 keeps it. Says she is putting it behind the cow. ''Cow's eating it.'' Laughs and talks. (3 minutes.)

Reaction Type 3.——The children's respect for the property rights of others was equal to their disrespect. Respect for the property rights of other persons score, 3.

M379 (chronological age, 43 months; Stanford-Binet mental age, 42 months). Stands and watches children. Looks at E and sits on the floor near the children. Watches children. Touches F383's car and says ''Don't.'' M379 smiles and makes faces at the other children. Kisses his knees. Acts ''funny'' for the children. The children laugh. Lies on floor. (1 minute. E's suggestion.) Sits up and makes more faces. F383 says: ''He hasn't anything to play with.'' M379 puts hand on F383's car. Has the children run cars over his hand. Talks about car going over a bridge. Watches children. Glances at M193. Watches children. (2 minutes. E's suggestion.) F383 puts her car down on floor. M379 gets it. F383 wants it back. M379 says: ''It's mine.'' F348 takes it from M379 for F383. M379 says, ''No, no.'' Pretends to run a car around the floor. The children hold cars up high, ''You can't reach it.'' M379 jumps, and ''scares'' them, acting as if he were going to take their cars. (3 minutes.)

Reaction Type 4.——The children noticeably respected the property rights of others. They reached for a car when they thought it was being given to them, or touched another's car. Respect for the property rights of other persons score 4.

F396 (chronological age, 46 months; Kuhlmann mental age, 49 months). Sits near children and watches them. Look at E. Watches children. Fastens buckle on overshoe. (1 minute. E's suggestion.) ''I want one of these.'' Watches children as they play. (2 minutes. E's suggestion.) ''I want one of those trains.'' Reaches for M329's when she pushes it near F396, as if to leave it. M239 grabs it first, however. Watches children. Glances at E. Sits in corner where children were sitting. Examines finger and watches children. (3 minutes.)

Reaction Type 5.——The children decidedly respected the property rights of others. They did not take or touch others' cars. Respect for the property rights of other persons score, 5. (Figure 3).

M328 (chronological age, 39 months; no mental age available). Watches children, 3 seconds. ''I wan a prain (train). I want one. I want one.'' Stands near E. ''I want prain, I want prain, I want prain,'' as watches children. ''I want a prain.'' (1 minute. E's suggestion.) ''What shall I play? What shall I play? What shall I play?'' Repeats ''What shall I play,'' four times, with more insistence. M249 to E: ''Have you any more of this kind of train?'' M328: ''What shall I play? What shall I play?'' (2 minutes. E's suggestion.) Watches children. ''I want a street car.'' Repeats twice. ''I just want a street car.'' Walks nearer the children. Touches M249's feet. Watches the children. (3 minutes.)

The following reaction types were found in Experiment 10:

Reaction Type 1.——The children had no respect for the property rights of others. They immediately took, or attempted to take, one of the cars from the children. Respect for the property rights of other persons score, 1.

M356 (chronological age, 35 months; Kuhlmann mental age, 36 months).

"I want my train." Takes street car from F375. Runs car and laughs. Talks. (1 minute.) Runs car around on the floor. F391 and M356 run cars and talk. M356 says "No, no!" as F375 comes close. Talks with children about people in street car. (2 minutes.) M356 yells when F375 goes to take the car. F375 says she isn't going to take it. F391 and M356 play and run cars around. M356 takes F391's car. F391 chases him around the room. (3 minutes.)

Reaction Type 2.——The children noticeably disrespected the property rights of others. They respected property rights for a short time. Respect for the property rights of other persons score, 2.

F348 (chronological age, 33 months; no mental age available). To F303: "I saw your doll." F303 put her street car down. F348 says: "May I have it?" Gets it at 17 seconds. "I want it. It's mine," as F303 tries to take it back. Talks about car. Plays with car. (1 minute.) Continues. Puts car on shelf. (2 minutes.) Gets car and plays with it. Runs car on floor with F379. Talks and runs car. (3 minutes.)

Reaction Type 3.——The children's respect and disrespect for the property rights of others were equal. Respect for the property rights of other persons score, 3.

M370 (chronological age, 37 months; Kuhlmann mental age, 37 months). Asks F379: "Can I have that?" Sits and watches as the children hold or run their street cars, for 40 seconds. Grabs at F379's car, then at F379's and F303's. They laugh and make a game of the grabbing. M370: "Can I have it?" F379 says "No." (1 minute.) Sits near F303. Goes and looks in shelves. Finds nothing. Sits and watches children and looks at their cars. The children call the street cars "trains." M370: "Those aren't trains." (2 minutes.) "Those are street cars." Talks more. Talks about Miss S.'s red train. (3 minutes.)

Reaction Type 4.——The children noticeably respected the property rights of other children. Respect for the property rights of other persons score, 4.

F332 (chronological age, 35 months; no mental age available). Stands and watches children, 15 seconds. Goes and looks out window. Rubs head. (1 minute.) Starts to leave the examination room. Talks about not being able to see out. Goes to get F342's car as she starts to stand on it. F342: "That's mine." F332 stops. (2 minutes.) Watches out window. Pushes on door. (3 minutes.)

Reaction Type 5.——The children decidedly respected the property rights of others. They did not take or attempt to take a car. Respect for the property rights of other persons score, 5.

F396 (chronological age, 47 months; Kuhlmann mental age, 49 months).

Sits near children and watches them. "I want one to play with. You roll one to me." M370 refuses. Spreads out feet. (1 minute.) Sits and watches the children. Sits as they play with their cars. (2 minutes.) Talks to F303. Puts their shoe soles together. Watches F303. Moves and watches children as they run cars. Jumps around on floor, then sits down. (3 minutes.)

TABLE 7

Ratings and Experimental Scores for Sixty-Seven Children on Four Social Behavior Traits

Child	Traits									
	Obedience		Interest			Coöperation			Property Rights		
	Rating	Mean Score Experiments 1, 4	Rating	Score Experiment 7	Score Experiment 8	Rating	Score Experiment 7	Score Experiment 8	Rating	Score Experiment 9	Score Experiment 10
M305	2.7	3.0	4.3	5.0	4.0	4.0	5.0	3.0	2.0	2.0	2.0
M264	5.0	5.0	4.3	5.0	4.0	4.0	4.0	4.0	4.3	5.0	4.0
F396	4.3	4.5	4.7	5.0	4.0	4.7	4.0	5.0	4.3	4.0	5.0
M279	3.3	3.5	3.3	4.3	3.0	3.3	4.0	3.0	2.3	4.0	1.0
M379	3.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.0	5.0
M368	2.7	3.0	4.0	4.0	4.0	4.0	4.0	4.0	1.3	2.0	1.0
F375	3.3	4.0	4.3	4.0	5.0	4.3	4.0	5.0	3.3	2.0	5.0
F383	3.3	4.0	5.0	5.0	5.0	4.3	4.0	5.0	3.0	2.0	4.0
F327	4.0	3.0	2.7	3.0	3.0	2.7	3.0	2.0	3.7	5.0	2.0
M370	4.0	4.0	3.3	3.0	4.0	3.7	3.0	4.0	3.0	3.0	3.0
F357	3.7	3.5	3.7	4.0	3.0	2.7	2.0	3.0	3.0	2.0	5.0
M356	2.0	2.0	3.3	4.0	3.0	2.0	3.0	2.0	1.3	1.0	1.0
F348	3.0	3.5	4.0	4.0	4.0	4.3	4.0	5.0	2.7	3.0	2.0
M378	3.0	3.0	2.3	3.0	2.0	2.0	2.0	2.0	3.0	4.0	3.0
F391	3.0	1.0	2.7	2.0	4.0	2.7	3.0	3.0	4.0	3.0	5.0
M209	4.0	3.0	4.0	4.0	4.0	3.5	2.0	4.0	3.5	4.0	5.0
M203	4.0	4.0	4.5	4.0	3.0	3.5	3.0	3.0	4.0	5.0	5.0
F188	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	3.0
F125	3.5	4.0	4.0	4.0	3.0	2.0	2.0	2.0	3.0	3.0	3.0
F192	4.5	5.0	4.0	4.0	5.0	4.5	4.0	5.0	4.0	5.0	5.0
F198	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	3.0
F215	4.0	5.0	4.5	5.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0
F213	3.0	3.0	3.5	4.0	3.0	3.5	3.0	4.0	3.5	4.0	4.0
F200	4.0	5.0	3.0	3.0	3.0	1.5	1.0	2.0	3.0	3.0	3.0
F191	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.0	4.0
F292	3.7	3.5	4.7	5.0	4.0	4.7	4.0	5.0	3.3	2.0	5.0
M300	3.3	3.5	3.3	3.0	4.0	2.7	3.0	2.0	3.0	5.0	5.0
F316	3.7	3.5	4.0	4.0	4.0	4.0	4.0	4.0	3.3	5.0	5.0
M254	2.3	3.5	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0
F159	3.0	4.5	5.0	5.0	5.0	4.3	5.0	4.0	2.7	3.0	2.0

TABLE 7 (continued)

Child	Traits										
	Obedience		Interest			Coöperation			Property Rights		
	Rating	Mean Score Experiments 1, 4	Rating	Score Experiment 7	Score Experiment 8	Rating	Score Experiment 7	Score Experiment 8	Rating	Score Experiment 9	Score Experiment 10
M279	2.0	2.0	3.0	4.0	2.0	2.3	3.0	2.0	1.7	2.0	1.0
M264	4.3	4.5	3.3	3.0	4.0	3.0	4.0	2.0	4.3	4.0	5.0
F250	4.0	4.5	3.5	3.0	3.0	2.3	2.0	3.0	2.7	5.0	5.0
M299	2.7	2.5	2.3	3.0	2.0	2.0	2.0	2.0	2.7	5.0	4.0
F284	2.7	5.0	3.0	3.0	4.0	2.3	3.0	2.0	3.0	5.0	4.0
M379	3.3	2.5	3.3	4.0	4.0	2.7	2.0	3.0	3.3	3.0	4.0
F278	3.3	4.0	4.3	5.0	4.0	4.7	5.0	5.0	3.3	4.0	3.0
M290	3.3	2.5	3.3	4.0	3.0	2.7	3.0	2.0	2.0	1.0	3.0
F256	3.0	3.0	2.3	2.0	3.0	2.3	3.0	2.0	3.3	4.0	3.0
M263	2.7	2.5	3.3	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
F363	3.3	4.0	4.7	4.0	5.0	4.0	4.0	4.0	3.7	5.0	4.0
M281	2.7	2.5	3.3	4.0	3.0	3.3	4.0	3.0	2.0	2.0	2.0
F221	3.0	4.5	4.3	4.0	5.0	3.7	4.0	3.0	3.0	3.0	3.0
M209	3.3	3.5	4.3	5.0	4.0	3.7	4.0	4.0	3.3	5.0	2.0
F106	3.3	4.5	4.0	4.0	4.0	3.7	3.0	4.0	3.3	2.0	5.0
F327	3.0	3.0	2.3	3.0	2.0	2.0	3.0	1.0	2.7	1.0	5.0
M382	2.3	3.0	4.3	5.0	4.0	2.3	3.0	2.0	2.7	5.0	5.0
F332	3.3	4.0	2.7	2.0	3.0	2.3	1.0	3.0	3.3	4.0	3.0
F252	4.0	3.0	2.7	4.0	2.0	3.0	2.0	4.0	4.0	5.0	4.0
F340	2.3	2.0	1.3	2.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0
M329	4.0	4.0	3.7	5.0	4.0	3.0	2.0	4.0	4.3	5.0	5.0
F342	3.7	3.5	3.0	3.0	3.0	3.0	4.0	2.0	3.3	2.0	3.0
M204	2.7	2.5	2.3	3.0	2.0	3.0	2.0	3.0	3.0	1.0	2.0
M193	2.0	5.0	4.0	3.0	5.0	2.0	1.0	3.0	2.0	2.0	1.0
F221	3.3	3.5	3.3	3.0	2.0	2.0	2.0	2.0	2.0	5.0	1.0
M186	3.7	3.5	4.0	4.0	4.0	3.3	3.0	3.0	3.3	4.0	3.0
F196	4.0	3.5	3.7	4.0	4.0	1.7	1.0	2.0	1.7	1.0	2.0
F226	4.0	3.0	2.7	3.0	4.0	2.0	2.0	2.0	2.0	5.0	1.0
F218	3.7	4.5	4.3	3.0	2.0	3.7	3.0	4.0	3.7	5.0	1.0
M173	4.0	4.5	4.0	4.0	4.0	4.0	3.0	3.0	4.0	5.0	5.0
M177	3.3	5.0	4.3	5.0	3.0	4.3	5.0	4.0	4.3	4.0	4.0
F196	3.3	3.0	3.7	4.0	4.0	1.3	1.0	1.0	3.7	5.0	5.0
F185	2.7	2.5	3.3	3.0	4.0	1.7	1.0	2.0	2.3	1.0	5.0
M244	2.0	2.0	3.0	3.0	3.0	2.0	2.0	1.0	2.3	2.0	3.0
F239	3.7	4.0	4.3	5.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0
M247	4.3	5.0	4.0	4.0	4.0	3.3	3.0	4.0	3.7	5.0	4.0
M245	2.7	2.5	4.3	4.0	5.0	3.7	4.0	3.0	2.3	3.0	2.0
Mean	3.3	3.6	3.7	3.8	3.6	3.2	3.1	3.2	3.1	3.4	3.4
S. D.	.6	.9	.8	1.3	.9	1.0	1.1	1.2	.7	1.3	1.4

VALIDITY OF RATINGS OF SOCIAL BEHAVIOR

The agreement between ratings and experimental scores is revealed by a study of the records for the individual children and of the means and standard deviations of the ratings and scores given in Table 7. The mean for the ratings on obedience is 3.3, and the standard deviation, 0.6; both 0.3 lower than the mean and standard deviation for the experimental scores. For interest, the mean of the ratings is 3.7, with a standard deviation of 0.8; the means of the experimental scores, 3.8 and 3.6, with standard deviations of 1.3 and 0.9 for Experiment 7 and Experiment 8, respectively. Coöperation ratings have a mean of 3.2 with a standard deviation of 1.0; while the experimental scores for Experiments 7 and 8 have means of 3.1 and 3.2, with standard deviations of 1.1 and 1.2. The mean of the ratings for respect for the property rights of other persons is 3.1, 0.3 less than the means of the experimental scores for the trait, and the standard deviation is 0.7, 0.6, and 0.7 less than the standard deviations of the experimental scores.

Correlations between experimental scores and ratings for obedience, interest, coöperation, and respect for others' property rights are given below:

Experiments and Ratings	r	P.E.
Average scores, Experiments 1 and 4, and ratings	.64	± .05
Interest scores, Experiment 7, and ratings	.83	± .03
Interest scores, Experiment 8, and ratings	.92	± .01
Average interest scores, Experiments 7 and 8, and ratings	.91	± .01
Coöperation scores, Experiment 7, and ratings	.82	± .03
Coöperation scores, Experiment 8, and ratings	.87	± .02
Average coöperation scores, Experiments 7 and 8, and ratings	.95	± .01
Property rights score, Experiment 9, and ratings	.58	± .05
Property rights score, Experiment 10, and ratings	.64	± .05
Average property rights scores, Experiments 9 and 10, and ratings	.76	± .03
Average of correlations between average scores, Experiments 1 and 4, and scores, Experiments 7, 8, 9, and 10, and ratings	.76	± .03

These correlations varying from .58 ± .05 to .95 ± .01 reveal substantial and high relationships between experimental scores and ratings for the four traits. For each trait, except interest, averages of the experimental scores give higher correlations with the ratings than do the scores of the single experiments.

How valid, then, are the ratings for obedience, interest in the group, coöperation, and respect for the property rights of other persons? Accepting the scores of the experiments as a criteria, the validity of these ratings is markedly high.

CHAPTER V

MEASUREMENT OF SOCIAL BEHAVIOR PATTERNS IN YOUNG CHILDREN BY MEANS OF OBSERVATIONAL STUDIES

As a method of establishing the validity of average ratings on four social behavior traits, the ratings of fifty-nine children were correlated with experimental scores for the four traits. The average reliability was shown to be .76 ± .03. Voelker (84), although he found the validity of his series of trustworthiness tests in this manner, suggested that observational studies of his subjects would have been a better criterion. He decided, however, that an observational investigation of his subjects would have been impracticable. In the present investigation, the writer has attempted to measure the validity of the rating scale and the experiments through observation of 590.4 hours of behavior of twelve children in the preschool laboratory, Group I, and in the preschool Home Laboratory. Two questions were to be answered: "(1) Is it possible to devise a practicable, accurate method of observation? (2) Do the average ratings and the experimental scores on social traits agree with the observational data?"

Diary Records of Seven Children

The overt behavior of seven children was observed and recorded by the writer in diary form during the six weeks summer session of the preschool Home Laboratory in 1926. The age range of the children in this group was one year, six months to four years, eleven months. Six children were chosen as objects of study. At the end of three weeks one boy was absent for a week. Another boy of nearly the same age was substituted for him during the remaining three weeks. Chronological ages, mental ages, and intelligence quotients for the seven children are shown below:

	Age, Months		Intelligence
Children	Chronological	Mental*	Quotient
F185	25	31	125
M244	27		
M245	34	34	100

F196	35		
F239	54	59	109
M247	54	57	106
M177	57	66	116

* All mental ages and intelligence quotients were determined by the Stanford Revision of the Binet scale.

Six children were observed simultaneously yet in rotation. The record of behavior was kept on six small note books arranged on a large cardboard which the observer carried on her left arm. Although not every bit of each child's overt behavior was recorded, a large sampling was obtained. Observations of 540 hours and 22 minutes of behavior were made during the lunch, sleep, free play, and group play periods,

Due to absences of the children, the length of the observations for each child was different from that of every other child. The number of times each item of behavior appeared was for this reason not representative of the seven children's behavior over the same period of time. On the assumption that the children would have behaved under additional observation as they had behaved while they were under observation, the length of time of observation for M245, 5,862 minutes (the longest period), was taken as a base, and the number of items in the patterns of the other children were increased proportionally.[16] That is, the number of times each item would have appeared in any child's behavior, if he had been observed as long as M245, was determined by multiplying the number of items actually observed by the percentage that the largest number of minutes was of the child's number of observations. The percentages used in finding the corrected number of items are given here:

Children	Percentage
M245	100
F185	100
F293	110
F196	110
M244	120
M177	200
M247	250

---

[16] An inspection of the diary records from the first half of the period of observations and from the last half shows that the children's behavior had changed very little over the six week's period.

The corrected number for the items of behavior are used in Tables 8 and 9, which are to be discussed later.

OBSERVATIONAL RECORDS OF THE SOCIAL BEHAVIOR OF FIVE CHILDREN

Description of the Observational Record

The tedium of recording, classifying, and tabulating the observations made in diary form for the seven children was so great that it was necessary to devise a simpler technique for dealing with other observational data. On the basis of the classification of social behavior in the *Rating Scale for Social Behavior of Young Children*, Form 2, a record for observations covering a period of ten minutes was devised for recording the social behavior of the children. (Figure 4)

The thirty social behavior traits of the rating scale were placed on the left side of the observational record. At the right of the traits, space was arranged in two divisions, each for a record of five minutes of observation of social behavior. Separate spaces were provided for totaling the number of times each different pattern of behavior appeared within five minute and ten minute periods. Above the space given to the social behavior observations, a place was provided for a record of the occupations of the child.

Method of Using the Observational Record

The following system for recording the behavior was used: For all behavior patterns, with the exception of those designated as ''interest'' and ''coöperation,'' each item of behavior was tabulated. The figure ''1'' was used to indicate an item of social behavior corresponding to the one of the pair of the behavior traits at the left side of the observational record blank, and the figure ''-1'' indicated the opposite of that behavior pattern. For example, an instance of obedient behavior was recorded as ''1'' in the space opposite ''obedient,'' while an instance of disobedient behavior was tabulated as ''-1'' in the same space. Interest was tabulated in the manner described above, whenever the observer could follow accurately the child's shifts in interest in the group. During group singing and singing-games, the observer was frequently unable to record accurately the child's shifting interest. The records of the five minute periods made during singing and singing-games were encircled to set them off from the other records of interest behavior.

In totaling the number of items of interest behavior for a child, the items of the encircled record were omitted. For each child, the

FIGURE 4

Record for Observations on Social Behavior

Form 1 October, 1927 Iowa Child Welfare Research Station

Name.................... Sex....... Date............... Hour.......... Date of birth...............

Occupations

Traits					Total
1 Obeys					
2 Seeks approbation					
3 Interested					
4 Depends on adult					
5 Affectionate					
6 Coöperates					
7 Others' property					
8 Participates					
9 Sympathizes					
10 Own property					
11 Sociable					
12 Kind					
13 Rivalrous					
14 Appreciates humor					
15 Social ownership					
16 Socially controlled					
17 Leads					
18 Imitates					
19 Teases					
20 Maternal					
21 Jealous					
22 Self-defense					
23 Irresponsible for self					
24 Critical					
25 Selfish					
26 Sensitive					
27 Irresponsible for others					
28 Social conformance					
29 Impolite					
30 Ascendant					

average number of items, not encircled, was determined, and that average assigned as the average number of interest behavior items in the encircled periods. For the total observational score for interest, the total of the assigned items was added to the total of the items actually tabulated. Coöperation was most easily tabulated by assigning 1 to coöperative behavior lasting thirty seconds or less. For every succeeding thirty seconds of coöperation another 1 was recorded.

After several preliminary observations of different lengths of time had been made for seventeen preschool children two hours was adopted as a satisfactory period for an observation.

Advantages of the Observational Record

The classifying and recording of the social behavior of young children on the observational record was much less laborious than was the diary method. Furthermore, since the judgment of the observer as to the classification of each bit of behavior was made while the behavior remained in the total situation of which it was a part, less error in classification was made than in the analysis of diaries. The method of obtaining the data collected on the observational record blank is systematic and objective; hence, the data may be used by persons of varied interests. The tabulation system, therefore, seems to be a practicable and accurate method for recording observations of the social behavior in young children.

Analysis of the Observational Records of Five Children

The social behavior of five children in preschool Group I was observed and recorded on the observational record by the observer. The children in the group ranged in age from two years, one month to three years, seven months. Each of the five children was observed two hours at a time for five times. Christmas vacation and absences stretched out the period of observations to about two months. As soon as the observations were completed, the children were rated and were given the experiments for measuring obedience, interest in the group, coöperation, and respect for the property rights of other persons.

The chronological age, mental age, and intelligence quotients for the five children are given below:

	Age, Months		Intelligence
Children	Chronological	Mental*	Quotient
F348	34		
F383	40	42(K)	106(K)
M368	42		

M350	46	52(K)	113(K)
M264	48	68	142

* All mental ages and intelligence quotients were determined by the Stanford Revision of the Binet scale, with the exception of those marked (K) which were determined by the Kuhlmann Revision of the Binet scale.

AGREEMENT OF RATINGS AND OBSERVATIONAL SCORES

For some of the behavior traits, both ends of the rating scale are descriptive of behavior patterns; for other traits, one end of the scale is descriptive of a behavior pattern, while the other indicates only a lack of that behavior pattern. For example, obedience has as its opposite, disobedience. A child may be both obedient and disobedient. His rating in the trait of ''obedience,'' presumably, would be based on both his obedient and his disobedient behavior. On the other hand, the behavior pattern, seeking approbation, has as its opposite only a lack of seeking approbation. Therefore, observations of a child's behavior includes only instances of seeking approbation. A rating, then, for seeking approbation should depend only on approbation seeking behavior.

The relationships between the observational scores and the average ratings were analyzed, first, for the diary records of the seven children and then for the observational records of the five children. Each trait in Form 1 and in Form 2 of the rating scale was considered separately in the following manner: The corrected number of times each pattern of behavior appears is given as an observational score. Any relationship which held between the observational scores and the ratings for the children in one trait was called the principle of relationship for that trait. A parallel relation between the observational scores and the ratings increases together; that is, every child who has a high observational score has a high rating, and every child who has a low observational score has a low rating.

For example, ratings for a trait might be 1, 2, 3, 4, and 5 and the corresponding observational scores 5, 10, 12, 16, and 20, respectively. If these ratings and scores are arranged in columns, it will be seen that the increase in the ratings parallels the increase in observational scores.

In rating a few paired traits, it seems that the raters considered both of the paired behavior patterns that fell under the traits. When the difference between the observational scores of the two paired behavior patterns parallel the ratings, a parallel relation of those differences with ratings is said to exist.

Ratings for a trait composed of paired patterns might be 1, 2, 3, 4, and 5 and the corresponding observational scores for the two ends, or patterns might be 4 and 4, 10 and 9, 4 and 2, 7 and 4, and 16 and 8, respectively. The differences between the observational scores for the two patterns are 0, 1, 2, 3, and 8. It will be seen that the increase in these differences parallels the increase in the ratings. The raters in making their ratings apparently balanced the paired patterns by estimating the difference in the number of occurrences of each. If the proportion of the observational scores of one of the paired behavior patterns to the scores of the other increases with the ratings, the relation is called a parallel relationship with the proportions.

The ratings for a trait made up of paired patterns might be 1, 2, 3, 4, and 5 and the corresponding observational scores for the two patterns, 1 and 1, 30 and 15, 27 and 9, 40 and 10, and 15 and 3. The increase in proportions of the observational scores of one pattern to those of the other pattern (i.e., 1, 2, 3, 4, and 5) obviously parallels the ratings. The raters seemed to balance the paired patterns by estimating the proportion between their occurrences.

In the tables, under the heading ''Exceptions to the Relationship,'' the number of cases that do not fall under the principle of relationship stated for the trait are indicated. Ratings and observational scores and principles of relationship for the traits of Form 1 of the rating scale are shown in Table 8 and of Form 2, in Table 9.

When the ratings for a trait made up of paired patterns are not given in terms of the pattern with which the observational scores are parallel, the rating for each child in terms of that pattern is the corresponding rating on the opposite side of the scale. Experimental scores were transformed in the same manner. The transformed ratings and experimental scores are given in the tables showing observational scores. It seems probable that raters gave ratings based on only one of the paired patterns because the memory of one pattern obliterated memory of the other.

The principles of relationship between the observational scores and the ratings of the seven children of the first observational study varied little from those of the five children in the twenty-four traits contained in both Form 1 and Form 2 of the rating scale.

TABLE 8

Ratings and Observational Scores on the Twenty-Six Social Behavior Traits of Form 1 Rating Scale for Social Behavior in Young Children for Seven Children

Trait Number	Trait Description	Child														Principle of Relationship	Exceptions to Relationship
		F185		M244		M245		F196		M247		F239		M177			
		Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score		
1	Obedience	3.3	315.0	4.0	274.8	3.3	328.0	2.7	145.2	1.7	182.5	2.3	235.4	2.3	264.0		
	Disobedience		204.0		230.4		162.0		145.2		15.0		61.6		106.0	Parallel	
2	Seeking approbation	3.0	5.0	2.0	1.2	3.7	12.0	1.7	1.1	3.3	7.7	2.0	2.5	2.3	4.0	Parallel	
3	Participation	2.3	0.0	2.3	0.0	3.3	21.0	1.3	0.0	3.0	0.0	3.7	110.0	3.7	106.0	Parallel	
4	Dependence	2.0	1.0	3.0	4.8	2.7	9.0	4.3	14.0	2.7	2.5	2.0	0.0	2.3	2.0	Parallel	1
	Independence						5.0										
5	Affection	4.3	98.0	3.3	21.6	3.3	21.0	3.0	14.3	3.0	5.0	3.7	27.5	3.7	28.0	Parallel	
	Lack of affection		3.0		2.4		0.0		4.4		2.5		1.1		0.0		
6	Exclusiveness	2.3	0.0	3.0	0.0	2.0	0.0	3.7	0.0	2.7	0.0	1.7	0.0	1.7	0.0	Too few cases	
	Broad friendship		0.0		0.0		0.0		0.0		0.0		0.0		0.0		
7	Coöperation	1.7	55.0	2.0	92.4	3.7	193.0	1.3	45.1	3.3	167.0	4.0	417.8	4.0	424.0	Differences parallel	
	Lack of coöperation		8.0		15.6		11.0		18.7		7.5		14.3		8.0		
8	Understanding of own property rights		88.0		85.2		69.0		0.0		0.0		37.4		54.0	Proportions parallel	
	Lack of understanding of own property rights	3.3	19.0	3.3	22.8	4.0	3.0	3.0	0.0	3.3	0.0	4.0	4.4	4.3	6.0		

9	Interest	3.3	882.0	3.0	904.8	4.3	863.0	3.7	1,060.4	4.0	742.5	4.3	623.6	4.3	500.0	None	
10	Sympathy		1.0		0.0		1.0		0.0		2.5		15.4		2.0	None	
	Lack of sympathy	2.7	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	2.3	6.6	2.7	0.0		
11	Respect for others' property rights	2.3	16.0	2.3	3.3	2.3	14.0	3.7	1.1	3.7	7.5	3.0	13.2	3.7	24.0		
	Disrespect for others' property rights		132.0		28.8		100.0		1.1		7.5		25.3		26.0	Proportions parallel	
12	Sociability		449.0		132.0		749.0		30.8		422.0		831.6		746.0	Parallel	
	Unsociability	3.7	23.0	2.0	2.4	4.0	6.0	1.3		3.7	5.0	4.3	1.1	4.0	0.0		
13	Kindness	3.0	78.0	3.3	42.0	3.0	70.0	3.3	0.0	4.0	37.5	4.0	92.4	4.0	132.0	Proportions parallel	1
	Unkindness		57.0		6.0		37.0		0.0		2.5		9.6		12.0		
14	Rivalry	2.7	3.0	2.3	0.0	2.7	7.0	2.7	1.1	2.7	5.0	3.3	40.7	3.0	20.0	Parallel	
15	Appreciation of humor	2.7	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	5.0	3.3	22.0	3.3	18.0	Parallel	
16	Respect for social ownership		0.0		0.0		0.0		0.0		0.0		0.0		0.0		
	Disrespect for social ownership	3.0	0.0	2.7	0.0	3.3	0.0	3.0	0.0	2.3	0.0	2.3	0.0	2.3	0.0	Too few cases	
17	Social control	2.0	0.0	2.7	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.3	0.0		
	Lack of social control		0.0		0.0		0.0		0.0		0.0		0.0		0.0	Too few cases	
18	Leadership		4.0		4.8		26.0		0.0		5.0		101.2		40.0	Parallel	
	Followership	2.3	0.0	2.3	0.0	2.7	0.0	3.0	0.0	2.3	0.0	4.0	0.0	3.3	0.0		
19	Imitation	3.3	66.0	3.3	62.0	4.3	192.0	2.7	5.5	3.3	45.0	3.3	86.9	3.3	36.0	Parallel	
20	Teasing	3.3	14.0	2.3	3.6	3.0	12.0	2.7	6.6	3.0	12.5	2.3	3.3	3.3	14.0	Parallel	
21	Motherliness	2.7	0.0	2.7	0.0	3.0	0.0	2.7	0.0	3.0	0.0	4.7	6.6	3.3	0.0	Too few cases	
22	Jealousy	3.3	2.0	3.0	0.0	3.0	1.0	2.7	0.0	2.0	0.0	2.3	0.0	2.7	0.0	Too few cases	

TABLE 8 (Continued)

Ratings and Observational Scores on the Twenty-Six Social Behavior Traits of Form 1 Rating Scale for Social Behavior in Young Children for Seven Children

Trait Number	Trait Description	Child														Principle of Relationship	Exceptions to Relationship
		F185		M244		M245		F196		M247		F239		M177			
		Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score		
23	Self-defense	4.3	80.0	3.7	16.8	4.0	54.0	2.3	5.5	3.0	22.5	3.7	24.2	3.7	18.0	Parallel	
	Lack of self-defense		11.0		9.6		7.0		14.3		5.0		4.4		8.0		
24	Responsibility for self and others		19.0		0.0		2.0		13.2		2.5		1.1		2.0		
	Irresponsibility for self and others	3.7	116.0	4.3	96.0	3.0	73.0	3.0	61.6	3.0	47.5	2.3	25.3	2.0	24.0	Differences parallel	2
25	Criticism	2.7	0.0	2.3	0.0	3.0	0.0	2.7	0.0	3.0	0.0	3.3	5.5	3.3	16.0	Parallel	
26	Politeness		1.0		0.0		1.0		0.0		0.0		1.1		2.0		
	Impoliteness	2.3	0.0	3.3	0.0	2.7	0.0	3.0	0.0	2.3	0.0	2.3	0.0	2.0	0.0	Too few cases	

For the seven children the observational scores for disobedience decrease with the decrease in the ratings for disobedience; for four of the five children the same relationship is found. A parallel relationship between the observational scores for disobedience and ratings for disobedience is evident. Lower observational scores for disobedience correspond to lower ratings for disobedience, and higher scores for disobedience correspond to higher ratings for disobedience. Observational scores for seeking approbation parallel ratings for that trait in the twelve children. The ratings of six of the seven children and of the five children in dependence on adults, increase with the corresponding observational scores. Ratings for affection are parallel to the observational scores for eleven children.

Observational scores for participation, sociability, teasing, imitation, and criticism, are parallel to the ratings for those traits respectively. The principle of parallel relationship holds for leadership and with two exceptions for appreciation of humor and self-defense, with one exception for each trait.

The differences between the scores for the paired patterns of behavior parallel the ratings of the group of seven children in coöperation. In the group of five children, although only one has a rating for coöperation differing from the ratings of the other children, the differences between the paired observational scores parallel the ratings, with one exception.

The observational scores of four children in the smaller group parallel their ratings for interest. In the larger group no principle of relationship between the observational scores and ratings is found. The children who have the highest rating, 4.3, have the lowest observational scores. This surprising situation is probably due to the fact that, in this group, behavior involving interest in the group as well as coöperation, sociability, or participation was usually recorded as one of these behavior patterns, not as interest. When the observational scores of these children for sociability, coöperation, and participation are added to their observational scores for interest, the total observational scores are found to be parallel to ratings for interest, with only one exception.

For eleven of the children, as the proportion of observational scores for respect for others' property rights to disrespect for others' property rights increases, the ratings for respect for others' property rights increases. With two exceptions, the proportion of kindness to unkindness increases with the increase in ratings for

TABLE 9

Ratings and Observational Scores on the Thirty Social Behavior Traits of Form 2 Rating Scale for Social Behavior in Young Children for Five Children

Trait Number	Trait Description	Child: F348 Rating	F348 Observational Score	M368 Rating	M368 Observational Score	F383 Rating	F383 Observational Score	M264 Rating	M264 Observational Score	M350 Rating	M350 Observational Score	Principle of Relationship	Exceptions to Relationship
1	Obedience	3.0	16.0	3.3	26.0	2.7	24.0	1.0	24.0	3.3	20.0	Parallel	1
	Disobedience		10.0		9.0		6.0		0.0		7.0		
2	Seeking approbation	3.3	0.0	3.7	44.0	4.0	56.0	3.3	8.0	4.0	81.0	Parallel	
3	Interest in group	4.0	1,237.0	4.0	1,381.0	5.0	1,417.0	4.3	1,388.0	4.3	1,379.0	Parallel	1
4	Dependence	2.0	2.0	1.0	0.0	1.0	1.0	1.7	2.0	3.0	4.0	Parallel	
	Independence				1.0								
5	Affection	4.0	12.0	3.3	12.0	5.0	29.0	3.0	2.0	3.3	4.0	Parallel	
	Lack of affection		0.0		0.0		0.0		0.0		0.0		
6	Coöperation	4.0	630.0	4.0	714.0	4.3	727.0	4.0	654.0	4.0	769.0	Differences parallel	1
	Lack of coöperation		0.0		6.0		2.0		0.0		0.0		
7	Respect for others' property rights	2.7	6.0	1.3	1.0	3.0	5.0	4.3	1.0	2.0	6.0	Parallel	1
	Disrespect for others' property rights		27.0		25.0		10.0		0.0		11.0		
8	Participation	3.7	10.0	2.7	4.0	5.0	21.0	3.7	16.0	3.0	7.0	Parallel	

9	Sympathy		0.0		0.0		2.0		1.0		0.0		
	Lack of sympathy	1.7	0.0	4.0	0.0	2.0	0.0	2.0	0.0	2.7	0.0	Too few cases	
10	Understanding of own property rights		19.0		28.0		27.0		9.0		33.0	Proportions parallel	1
	Lack of understanding of own property rights	1.7	0.0	2.0	3.0	1.3	1.0	2.0	0.0	1.3	0.0		
11	Sociability		212.0		311.0		597.0		462.0		403.3	Parallel	
	Unsociability	3.1	5.0	4.3	0.0	5.0	2.0	4.3	0.0	4.3	0.0		
12	Kindness	3.3	11.0	3.3	13.0	3.0	20.0	5.0	23.0	2.7	5.0	Proportions parallel	
	Unkindness		3.0		0.0		10.0		0.0		2.0		
13	Rivalry	4.0	0.0	4.3	1.0	3.7	0.0	3.7	0.0	2.5	0.0	Too few cases	
14	Appreciation of humor	5.0	22.0	3.0	8.0	4.3	26.0	3.7	9.0	3.0	8.0	Parallel	1
15	Respect for social ownership		1.0		0.0		0.0		0.0		0.0		
	Disrespect for social ownership	3.0	0.0	4.3	6.0	3.3	0.0	1.0	0.0	2.7	0.0	Too few cases	
16	Socially controlled behavior	4.0	3.0	1.7	2.0	4.0	0.0	4.0	0.0	3.0	0.0	Too few cases	
	Lack of socially controlled behavior		1.0		5.0		0.0		0.0		0.0		
17	Leadership		1.0		3.0		24.0		18.0		9.0	Parallel	1
	Followership	2.7	0.0	2.7	2.0	4.0	2.0	3.0	1.0	2.3			
18	Imitation	3.7	59.0	3.7	28.0	3.0	5.0	3.3	16.0	3.0	6.0	Parallel	
19	Teasing	4.0	14.0	3.0	0.0	3.0	2.0	2.7	0.0	3.3	6.0	Parallel	
20	Motherliness	4.0	1.0	1.0	0.0	4.7	2.0	3.3	0.0	1.7	0.0	Parallel	
21	Jealousy	2.0	0.0	2.7	0.0	3.0	0.0	3.0	0.0	3.3	0.0	Too few cases	

TABLE 9 (Continued)

Ratings and Observational Scores on the Thirty Social Behavior Traits of Form 2 Rating Scale for Social Behavior in Young Children for Five Children

Trait Number	Trait Description	Child										Principle of Relationship	Exceptions to Relationship
		F348		M368		F383		M264		M350			
		Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score	Rating	Observational Score		
22	Self-defense	4.0	0.0	4.7	10.0	4.3	9.0	2.7	2.0	4.0	5.0	Parallel	1
	Lack of self-defense		0.0		0.0		0.0		0.0		2.0		
23	Responsibility for self		2.0		2.0		0.0		5.0		0.0		
	Irresponsibility for self	2.7	6.0	4.0	12.0	1.7	0.0	1.7	6.0	4.3	9.0	Differences parallel	
24	Criticism	3.3	1.0	2.0	0.0	3.3	1.0	3.7	4.0	3.7	7.0	Parallel	
25	Selfishness	2.7	0.0	3.0	0.0	3.0	0.0	2.0	0.0	3.0	0.0	Too few cases	
	Unselfishness		0.0		0.0		0.0		0.0		0.0		
26	Sensitiveness	3.7	0.0	1.7	0.0	3.7	0.0	5.0	0.0	2.7	0.0	Too few cases	
27	Responsibility for others		1.0		0.0		0.0		1.0		0.0	Too few cases	
	Irresponsibility for others	2.3	0.0	4.7	0.0	2.0	0.0	2.0	0.0	3.7	0.0		
28	Social conformance	4.0	7.0	2.7	4.0	3.3	4.0	4.3	6.0	3.0	3.0	None	
29	Politeness		3.0		3.0		4.0		8.0		3.0	None	
	Impoliteness	2.3	1.0	4.0	2.0	3.0	1.0	1.7	0.0	3.7	0.0		
30	Ascendance	3.7	4.0	3.0	0.0	4.0	1.0	3.0	0.0	3.3	1.0	Parallel	1
	Submission		0.0		0.0		0.0		0.0		0.0		

kindness, and of understanding of own property rights to lack of understanding of own property rights with the increase in ratings for understanding of own property rights. Observational scores for rivalry in the seven children parallel the ratings.

Exclusiveness, a trait in Form 1 of the rating scale, had no observational scores, and since it seemed to fall under the trait of sociability, it was not included in Form 2 of the scale. Irresponsibility for self and others, of Form 1, was found to be two separate traits. An increase in the differences between observational scores for irresponsibility for self and others and responsibility for self and others parallels the increase in the ratings, with one exception. For four of the five children, the differences between observational scores for responsibility for self and irresponsibility for self show a parallel relationship with ratings. Ascendance scores parallel the ratings for four of the five cases.

For motherliness and politeness in the seven children, for irresponsibility for others, sympathy, and rivalry in the five children, and for respect for social ownership, socially controlled behavior, and jealousy in all the children, the observational scores are too few or too small to indicate principles of relationship with their respective ratings. Sensitiveness and selfishness have no observational scores. The behavior which the observer had thought should be included in these traits fitted more logically under other traits. Scores and ratings for politeness and social conformance in the five children and sympathy in the seven children reveal no principles of relationship.

It is evident that some type of parallel relationship between observational scores and ratings is found for most of the traits. However, the observational scores do not show equal magnitudes for corresponding divisions of the rating scale, to which equal values have been assigned. That is, ratings of 1, 2, 3, 4, and 5 may correspond to observational scores of 10, 30, 35, 37, and 40 respectively. The ratings of observational scores increase together but differences between adjacent ratings are not proportional to the differences between adjacent observational scores. This suggests that there is a lack of an exactly defined unit of measurement in the rating scale which may explain several exceptions to principles of relationships between observational scores and ratings. In spite of this lack of an exactly defined unit of measurement, the comparison of observational scores and average ratings show that the

TABLE 10
Experimental Scores and Observational Scores on Four Social Behavior Traits for Six Children

Trait Description	Child																		Principle of Relationship	Exceptions to Relationship
	F185			M244			M245			F196			M247			F239				
	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score		
Obedience	1 4	3.5	315.0	1 4	4.0	274.8	1 4	3.5	328.0	1 4	3.0	145.2	1 4	1.0	182.5	1 4	2.0	235.4		
Disobedience			204.0			230.4			162.0			145.2			15.0			61.6	Parallel	
Interest in group	7 8	3.0 4.0	882.0	7 8	3.0 3.0	904.8	7 8	4.0 5.0	863.0	7 8	3.0 4.0	1,060.4	7 8	4.0 4.0	742.5	7 8	5.0 4.0	633.6	None	
Coöperation	7 8	1.0 2.0	55.0	7 8	2.0 1.0	92.4	7 8	4.0 3.0	193.0	7 8	1.0 1.0	18.7	7 8	3.0 4.0	167.0	7 8	4.0 4.0	417.8	Differences parallel	2
Lack of coöperation			8.0			15.6			11.0			45.1			7.5			14.3		
Respect for others' property rights	9 10	1.0 5.0	16.0	9 10	2.0 3.0	3.3	9 10	3.0 2.0	14.0	9 10	5.0 5.0	1.1	9 10	5.0 4.0	7.5	9 10	3.0 3.0	13.2	Proportions parallel	1 3
Disrespect for others' property rights			132.0			28.8			100.0			1.1			7.5			25.3		

ratings for most of the traits are rather highly valid measures of social behavior for the twelve children.

AGREEMENT OF EXPERIMENTAL AND OBSERVATIONAL SCORES

Average ratings, experimental scores, and observational scores of obedience, interest in others, coöperation, and respect for property rights of other persons are given for six children in Table 10, and for five children in Table 11. The experimental and observational scores for these traits are compared, and the principles of relationship between them are indicated in the columns at the right of the experimental scores. In ten children, the increase in the experimental scores for disobedience parallels increasing observational scores for disobedience. In other words, the children who are observed as being most disobedient, are most disobedient in the experimental situations, while those who are found under observation to be most obedient are scored most obedient in the experiments. For four of the five children, observational scores for interest parallels the interest scores from Experiment 7 and for the five children, from Experiment 8. In the group of six children, no principle of relationship is found between the observational scores for interest and the interest scores from Experiments 7 and 8. When the observational scores are determined by adding to the original interest score, the scores for participation, coöperation, and sociability, nine out of the eleven cases show that the observational scores parallel the interest scores from the experiments. Differences between observational scores for coöperation and lack of coöperation parallel the coöperation scores of Experiment 7, in eleven children, and of Experiment 8, in seven children. As the proportion of disrespect for others' property rights to respect for others' property rights decreases, scores increase for Experiment 9, with two exceptions, and for Experiment 10, with four exceptions.

Measured by the observations, obedience scores obtained from averaging the scores of Experiments 1 and 2 are valid measures of obedience in ten of the eleven children who were observed and given the experiments. Similarly, the experimental scores for interest and coöperation are valid measures of interest and coöperation, in a smaller number of the children; and the property rights experiments are valid measures of respect for others' property rights in even fewer children. When agreement with observational scores is the criterion, these experiments may be said to have a fairly high degree of validity.

TABLE 11
Experimental Scores and Observational Scores on Four Social Behavior Traits for Five Children

Trait Description	Child															Principle of Relationship	Exceptions to Relationship
	F348			M368			F383			M264			M350				
	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score	Experiment	Experimental Score	Observational Score		
Obedience	1 4	2.5	16.0	1 4	3.0	26.0	1 4	2.0	24.0	1 4	1.0	24.0	1 4	3.0	20.0		
Disobedience			10.0			9.0			6.0			0.0			7.0	Parallel	
Interest in group	7 8	4.0 4.0	1,237.0	7 8	4.0 4.0	1,381.0	7 8	5.0 5.0	1,417.0	7 8	5.0 4.0	1,388.0	7 8	5.0 4.0	1,379.0	Parallel Parallel	1
Coöperation	7 8	4.0 5.0	630.0	7 8	4.0 4.0	714.0	7 8	4.0 5.0	727.0	7 8	4.0 4.0	654.0	7 8	5.0 3.0	769.0	Differences parallel	1 2
Lack of coöperation			0.0			6.0			2.0			0.0			0.0		
Respect for others' property rights	9 10	3.0 2.0	6.0	9 10	2.0 1.0	1.0	9 10	2.0 4.0	5.0	9 10	5.0 4.0	1.0	9 10	2.0 2.0	6.0	Proportions parallel	1 1
Disrespect for others' property rights			27.0			25.0			10.0			0.0			11.0		

CHAPTER VI

SUMMARY AND CONCLUSIONS

The importance of the interaction of the child and his social environment for the development of social behavior patterns is recognized by mental hygienists, psychologists, and sociologists. There is little agreement, however, in the descriptions of the various patterns of social behavior in young children and of the processes of social development. The present investigation was undertaken for the purpose of measuring the social behavior of preschool children by means of ratings, experiments, and observations.

A rating scale of thirty paired traits devised for measuring the social behavior in young children was based on records of daily observations in preschool groups. The behavior described in the rating scale is distinguishable from other behavior on the basis of two characteristics: (1) it is response to the presence or behavior of other persons; and (2) it is response to rules of behavior that directly involve other persons as objects of activity or as partners in coöperation.

Ten experimental situations, similar to situations frequently found in the preschools, were arranged for measuring the traits of obedience, interest in the group, coöperation, and respect for others' property rights in the children. Obedience was measured by the child's submission or lack of submission to commands to lie down on the floor and to follow the experimenter in placing a small block at various positions on the top of a small box; coöperation and interest, by the child's playing with and watching the other children and the experimenter in the experimental situation; and respect for the property rights of others, by the child's taking or attempting to take, and not taking or not attempting to take a car from one of the other children in the situation.

The diary method was used in the observation of seven children in the preschool laboratories. Later, a record for observations, based on the classification of social behavior in the rating scale, was devised for recording the occurence of each behavior pattern. The method of using the observational record was more accurate and more easily applied than was the diary method. The results of observations were used in checking the validiity of ratings for twelve children, and of experimental scores, for eleven children.

The subjects of the investigations were 132 preschool children between one and five years of age.

The ratings on thirty social behavior traits for eighty-two children, the experimental scores on four traits for fifty-nine children, and observations of the behavior of twelve children provide the data for the following conclusions:

1. The rating method used in this investigation is a reliable technique for the study of the social behavior in young children. This is revealed by correlations of ratings on the same children by different raters of .62 ± .08, .77 ± .05, and .82 ± .04.

2. The ratings reveal age differences in the subjects of the investigation. Significant differences between the means of ratings for the two-year-old group and the three-year-old group were found in thirteen traits; for the two-year-old group and the four-year-old group in twelve traits; and for the three-year-old group and four-year-old group in one trait. The three-year-old and four-year-old groups exceed the two-year-old group in interest in the group, understanding of own property rights, sociability, rivalry, jealousy, responsibility for self, responsibility for others, criticism, social conformance, and ascendance. In addition, three-year-old children exceed two-year-old children in independence of adults and self-defense, and four-year-old children exceed two- and three-year-old children in coöperation.

3. Two significant differences between boys and girls are shown by the ratings. Girls of all age groups exceed boys of all age groups in motherliness; and three-year-old boys exceed three-year-old girls in irresponsibility for others.

4. In a group of thirty, two-, three-, and four-year-old children given the Stanford revision of the Binet scale, whose average chronological age was 45.3 months, significant correlations with ratings indicated that chronological age was related positively to selfishness, understanding of own property rights, and responsibility for self; and that mental age was related positively to participation, motherliness, criticism, coöperation, and responsibility for others, and lack of imitation and of affection.

5. In a group of thirty-one, two-, three-, and four-year-old children given the Kuhlmann revision of the Binet scale, whose chronological age was 36.0 months, chronological age was positively

related to self-defense, criticism, coöperation, socially controlled behavior, rivalry, interest in the group, understanding of own property rights, responsibility for self, independence of adults, and sociability; and mental age was positively related to rivalry, self-defense, interest in the group, coöperation, criticism, sociability, and responsibility for others.

6. Significant partial correlations between chronological age and the thirty social behavior traits with mental age constant indicate that those factors peculiar to chronological age, in the group of thirty children given the Stanford revision of the Binet scale, are positively related to socially controlled behavior, affection, selfishness, leadership, understanding of own property rights, and irresponsibility for others; and in the group of thirty-one children given the Kuhlmann revision of the Binet scale, to socially controlled behavior, rivalry, ascendance, interest in the group, and independence of adults.

7. Significant partial correlations between mental age and the thirty social behavior traits with chronological age constant show that those factors peculiar to mental age, in the group of thirty children given the Stanford Revision of the Binet scale, are positively related to participation, lack of understanding of own property rights, followership, motherliness, criticism, selfishness, sympathy, responsibility for others, and lack of affection, of interest, and of socially controlled behavior; and in the group of thirty-one children given the Kuhlmann Revision of the Binet scale, positively related to sympathy and lack of socially controlled behavior and of interest in the group.

8. The reactions of the children in six of the ten experiments vary greatly and are scored on the amount of the trait shown. The commands in four obedience experiments are too easily obeyed to be satisfactory measures of obedience.

9. The individual differences in the children as revealed by the experiments are greater than those revealed by the ratings.

10. When the scores of the six experiments are used as a criterion, the ratings on obedience, interest in the group, coöperation, and respect for others' property rights are valid measures of the traits. Correlations between ratings and experimental scores ranged from .58 ± .05 to .91 ± .01, with an average of .76 ± .03.

11. Observational scores are in fairly high agreement with the

ratings for the social behavior traits of twelve children and with the experimental scores of eleven children.

This investigation has shown that a large number of patterns are found in the social behavior of children from two to five years of age. Certain traits change from one age group to another. In other traits, individual differences are of more significance than age differences. Mental age is related to a large number of traits. These conclusions are of great importance in planning for the social education of young children. It seems that more intensive investigation of the several traits of social behavior found in young children might be undertaken profitably in order to describe the traits more fully and to discover the causal factors in their development.

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